



STIC Search Report

EIC 1700

STIC Database Tracking Number: 140130

TO: Dawn Garrett
Location: REM 10A54
Art Unit : 1774
December 21, 2004

Case Serial Number: 10/670005

From: Usha Shrestha
Location: EIC 1700
REMSSEN 4B28
Phone: 571/272-3519
usha.shrestha@uspto.gov

Search Notes



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- I am an examiner in Workgroup: Example: 1713
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28



SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAWN GARRETT Examiner #: 76107 Date: 12/10/2004
 Art Unit: 1774 Phone Number: 202-272-1523 Serial Number: 10/670,005
 Mail Box and Bldg/Room Location: _____ Results Format Preferred (circle): PAPER DISK E-MAIL

Remain 10A54

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc. if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Organic Electroluminescent Device

Inventors (please provide full names): _____

Tatsuya Igarashi, Kohsuke WatanabeEarliest Priority Filing Date: 2002-287390 Japan 9/30/02

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search formula (I) wherein:

 R^H and R^{12} ~~are substituents~~ are substituents Y^I , Y^{12} , and Y^{13} are substituted carbons M^I is a transition metal L^I is a ligand $n^I = 1 \text{ to } 3$ $n^{12} = 0-4$ $n^{13} = 0-4$ *****
STAFF USE ONLYSearcher: Usha Shrestha

Searcher Phone #: _____

Searcher Location: _____

Date Searcher Picked-Up: 12/20/04Date Completed: 12/21/04Searcher Prep & Review Time: 30

Clerical Prep Time: _____

Online Time: 90**Type of Search**

NA Sequence (#) _____

AA Sequence (#) _____

Structure (#) _____

Bibliographic _____

Litigation _____

Fulltext _____

Patent Family _____

Other _____

Vendors and cost where applicableSTN 389.03

Dialog _____

Questel/Orbit _____

Dr. Link _____

Lexis/Nexis _____

Sequence Systems _____

WWW/Internet _____

Other (specify) _____

=> d his

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L1 STR
L2 STR L1

FILE 'REGISTRY' ENTERED AT 08:38:12 ON 21 DEC 2004

L3 SCR 1964
L4 SCR 1921
L5 SCR 1931
L6 50 S L1 AND (L3 OR L4 OR L5)
L7 34 S L2 AND (L3 OR L4 OR L5)
L8 STR L1
L9 50 S L8 AND (L3 OR L4 OR L5)
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L12 39174 S L11 FUL
SAV L12 GAR670/A TEMP

FILE 'HCA' ENTERED AT 09:25:18 ON 21 DEC 2004

L13 33219 S L12
L14 170 S L13 (L) (EL OR ?LUMINE? OR LIGHT?(3A)EMIT?)
L15 8 S L13 (L) (EL OR ELCTROLUMINE? OR LIGHT?(3A)EMIT?)
L16 17 S L13 (L) (EL OR ELECTROLUMINE? OR LIGHT?(3A)EMIT?)
L17 1902 S IGARASHI T?/AU
L18 0 S L16 AND L17

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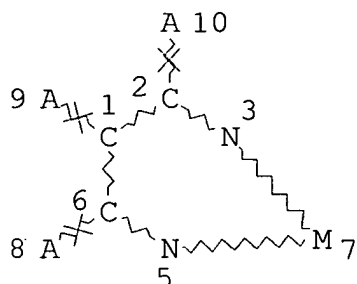
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L21 13 S L20 AND (EL OR ELECTROLUMINE? OR LIGHT?(3A)EMIT?)
L22 24 S L21 OR L16
SET COST OFF

=> d que stat

L3 SCR 1964
L4 SCR 1921
L5 SCR 1931
L10 STR



NODE ATTRIBUTES:

NSPEC IS RC AT 8
 NSPEC IS RC AT 9
 NSPEC IS RC AT 10
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 9

STEREO ATTRIBUTES: NONE

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 ? OR LIGHT?(3A)EMIT?)
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L22 ANSWER 1 OF 24 HCA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 141:380306 HCA

TITLE: Luminescent lanthanide(III)-chelated dendritic
 complexes having light-harvesting effect and
 their synthetic methods

INVENTOR(S): Kim, Hwan-Kyu; Roh, Soo-Gyun; Kim, Yong-Hee; Ka,
 Jae-Won; Baek, Nam-Seob; Nah, Min-Kook; Oh,
 Jae-Buem

PATENT ASSIGNEE(S): S. Korea

SOURCE: PCT Int. Appl., 110 pp.

DOCUMENT TYPE: CODEN: PIXXD2
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: English
 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004092185	A1	20041028	WO 2004-KR181	20040131
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.:			KR 2003-24190	A 20030416
			KR 2003-102338	A 20031231
			KR 2003-102339	A 20031231

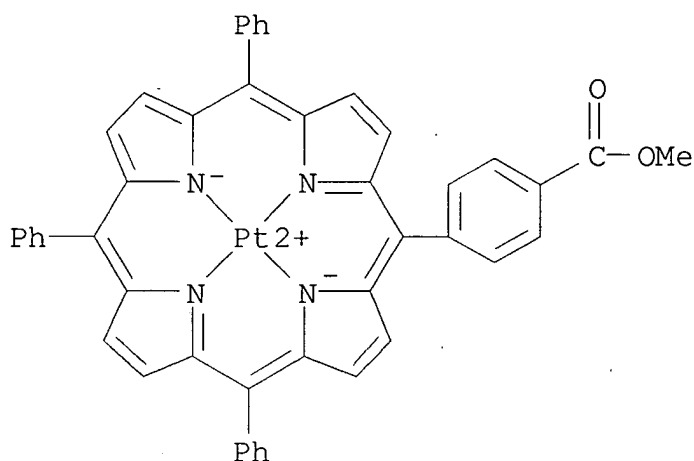
AB The present invention relates to new organic luminescent complex compds. containing rare earth metal ions, and methods for preparing the same. The compds. have photophys. properties which are maximized by processes of absorbing and transferring artificial light using the principle of photosynthetic antenna complexes. The compds. have a structure where the rare earth metal ions are efficiently encapsulated with organic ligand derivs.

IT **631842-77-8P**, [5,10,15-Triphenyl-20-(4-methoxycarbonylphenyl)porphyrin]platinum (intermediate, dendrimer core; production of luminescent lanthanide(III)-chelated dendritic complexes having

light-harvesting effect)

RN 631842-77-8 HCA

CN Platinum, [methyl 4-(10,15,20-triphenyl-21H,23H-porphin-5-yl-
κN21,κN22,κN23,κN24)benzoato(2-)]-,
(SP-4-2)- (9CI) (CA INDEX NAME)

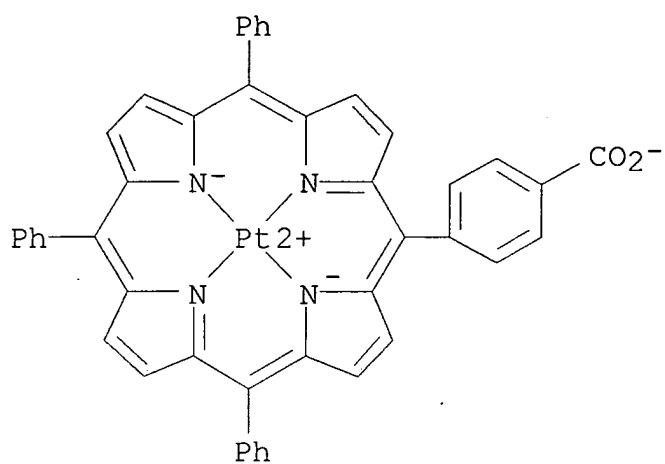


IT **631842-78-9P**, [5,10,15-Triphenyl-20-(4-carboxyphenyl)porphyrin]platinum **780783-06-4P**
780783-07-5P 780783-10-0P 780783-11-1P

(intermediate; production of luminescent lanthanide(III)-chelated
dendritic complexes having light-harvesting effect)

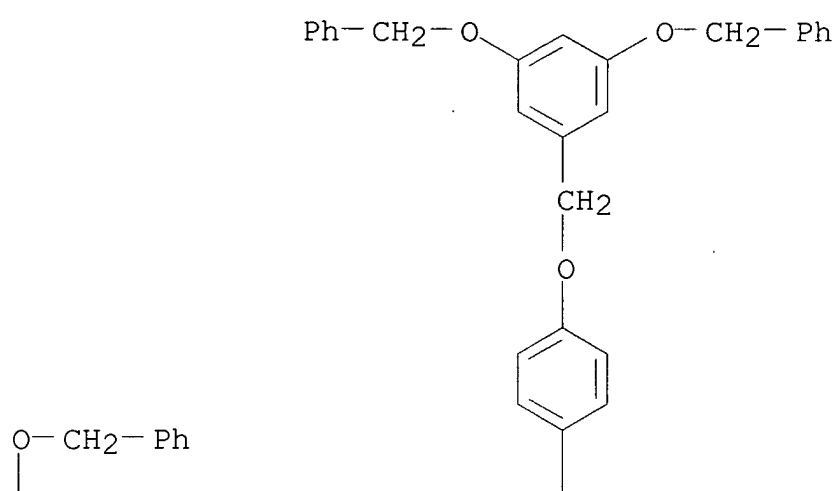
RN 631842-78-9 HCA

CN Platinate(1-), [4-(10,15,20-triphenyl-21H,23H-porphin-5-yl-
κN21,κN22,κN23,κN24)benzoato(3-)]-,
hydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)

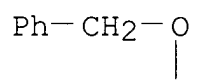


RN 780783-06-4 HCA
CN INDEX NAME NOT YET ASSIGNED

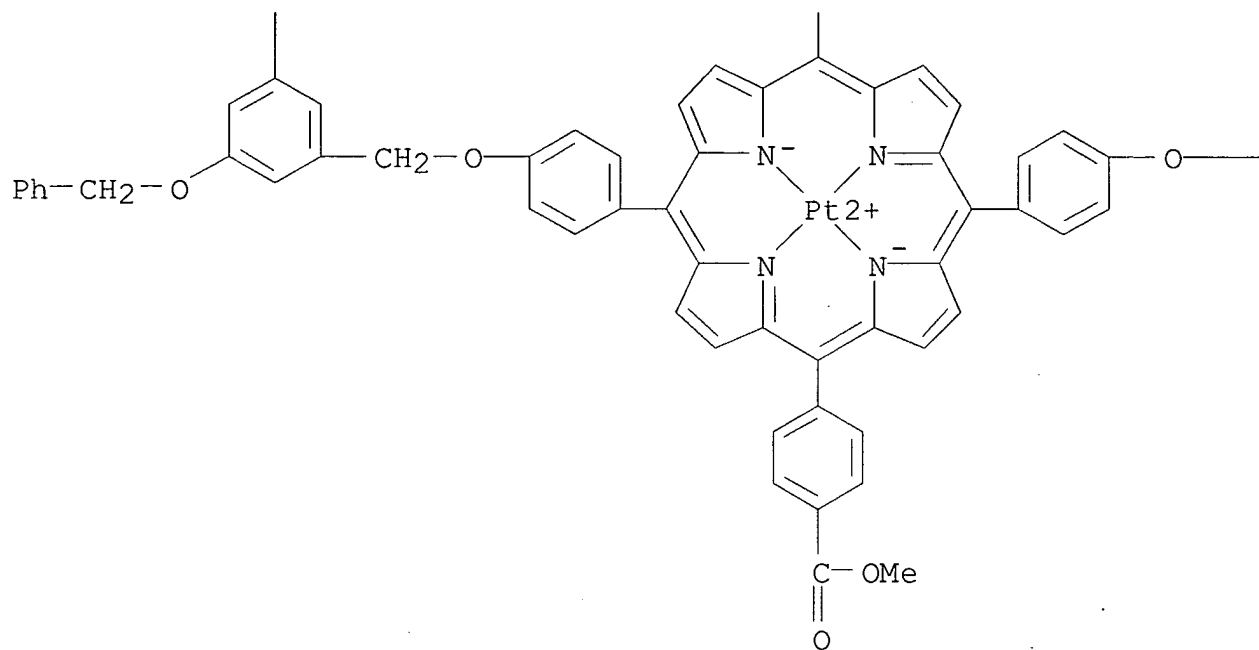
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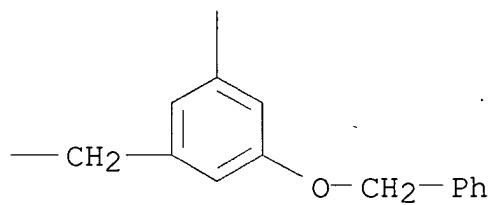
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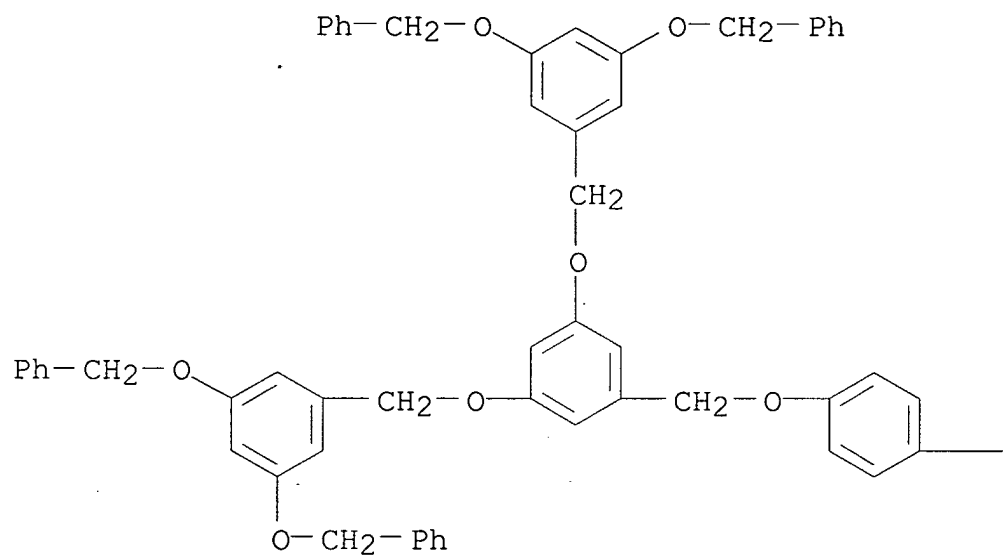


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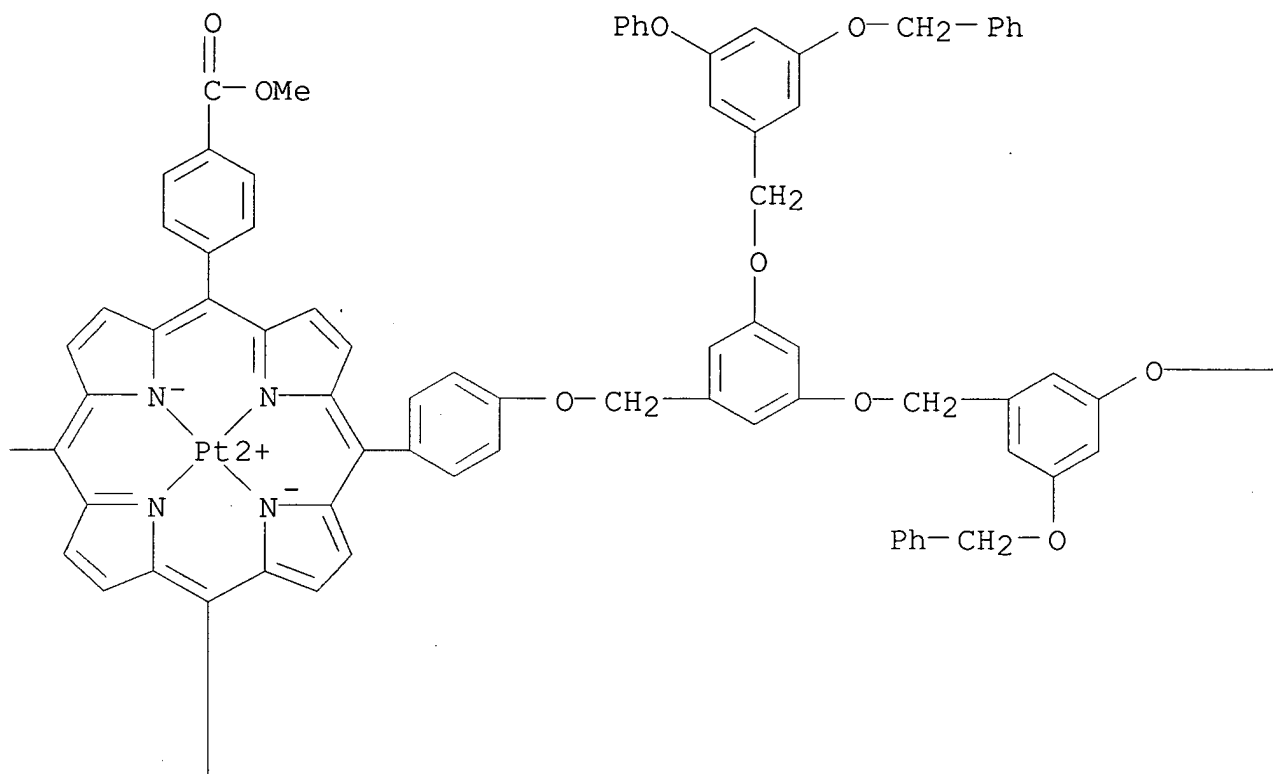


RN 780783-07-5 HCA
CN INDEX NAME NOT YET ASSIGNED

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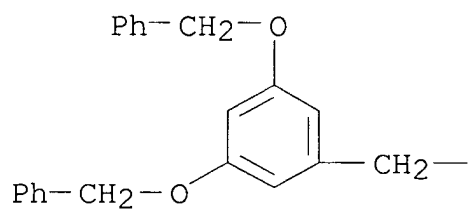
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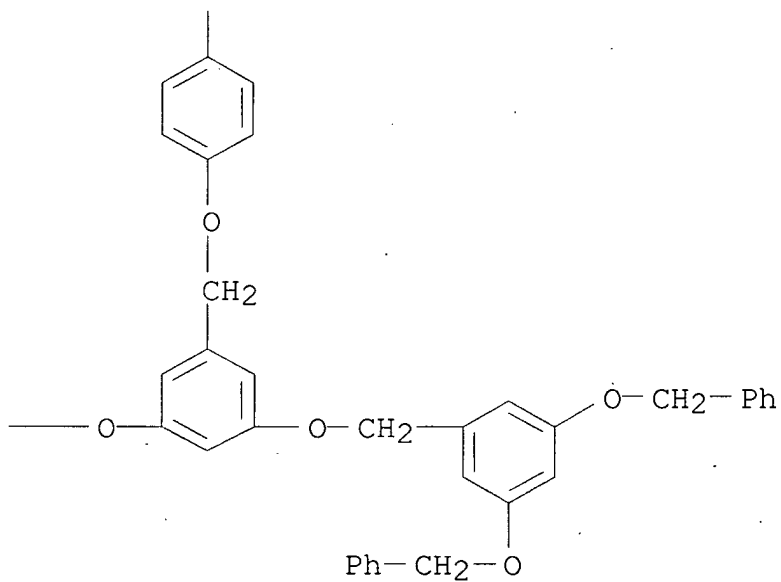
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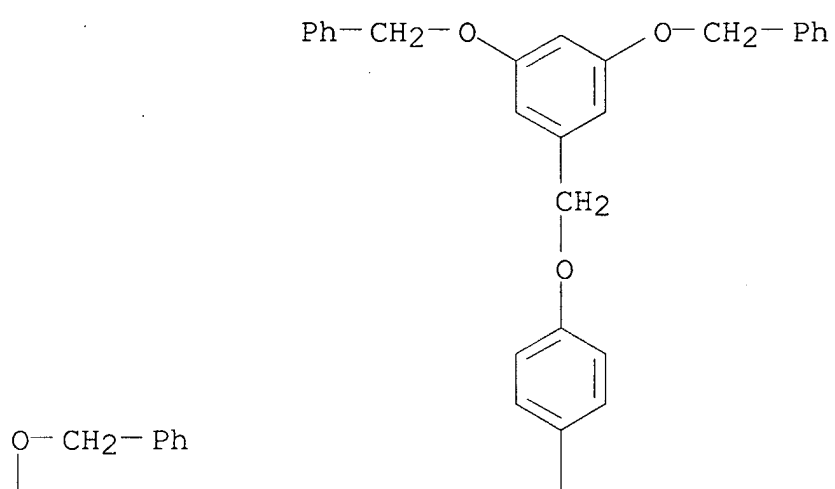


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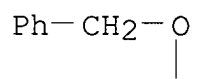


RN 780783-10-0 HCA
 CN Platinate(1-), [4-[10,15,20-tris[4-[[3,5-bis(phenylmethoxy)phenyl]methoxy]phenyl]-21H,23H-porphin-5-yl-κN21,κN22,κN23,κN24]benzoato(3-)]-,
 hydrogen, (SP-4-2)-(9CI) (CA INDEX NAME)

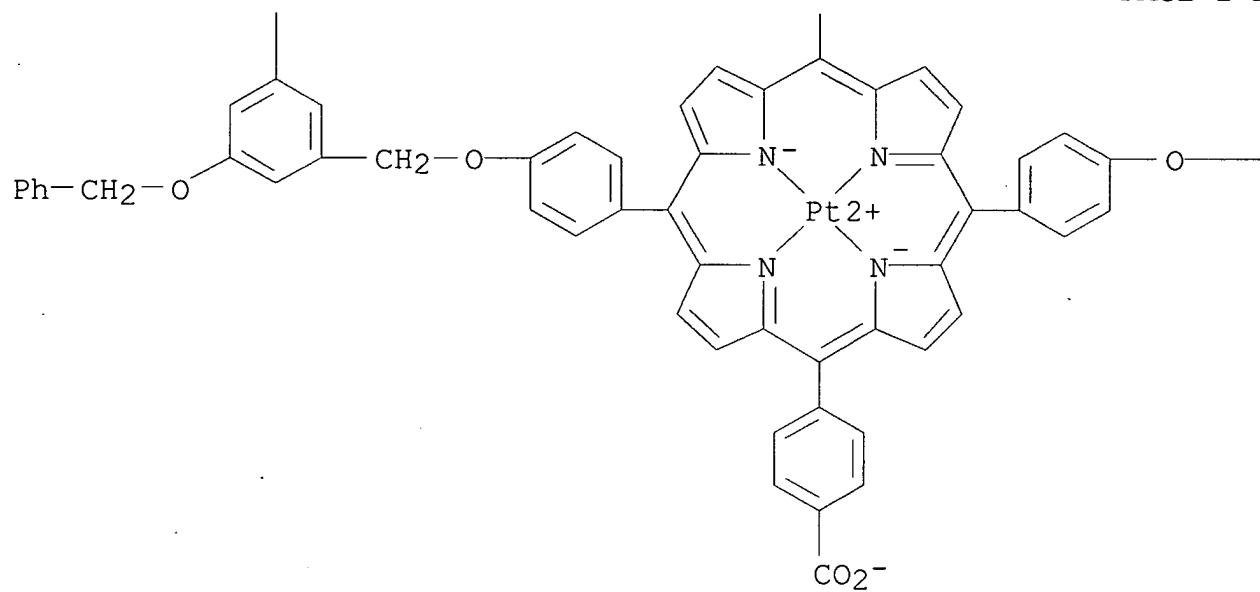
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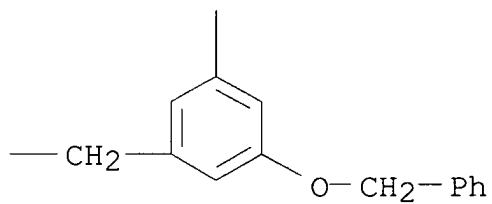
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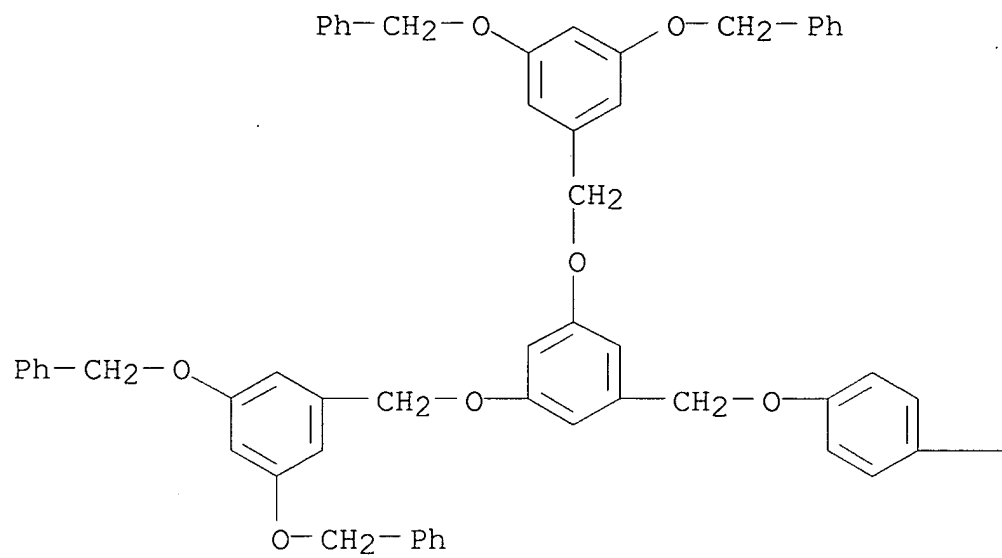


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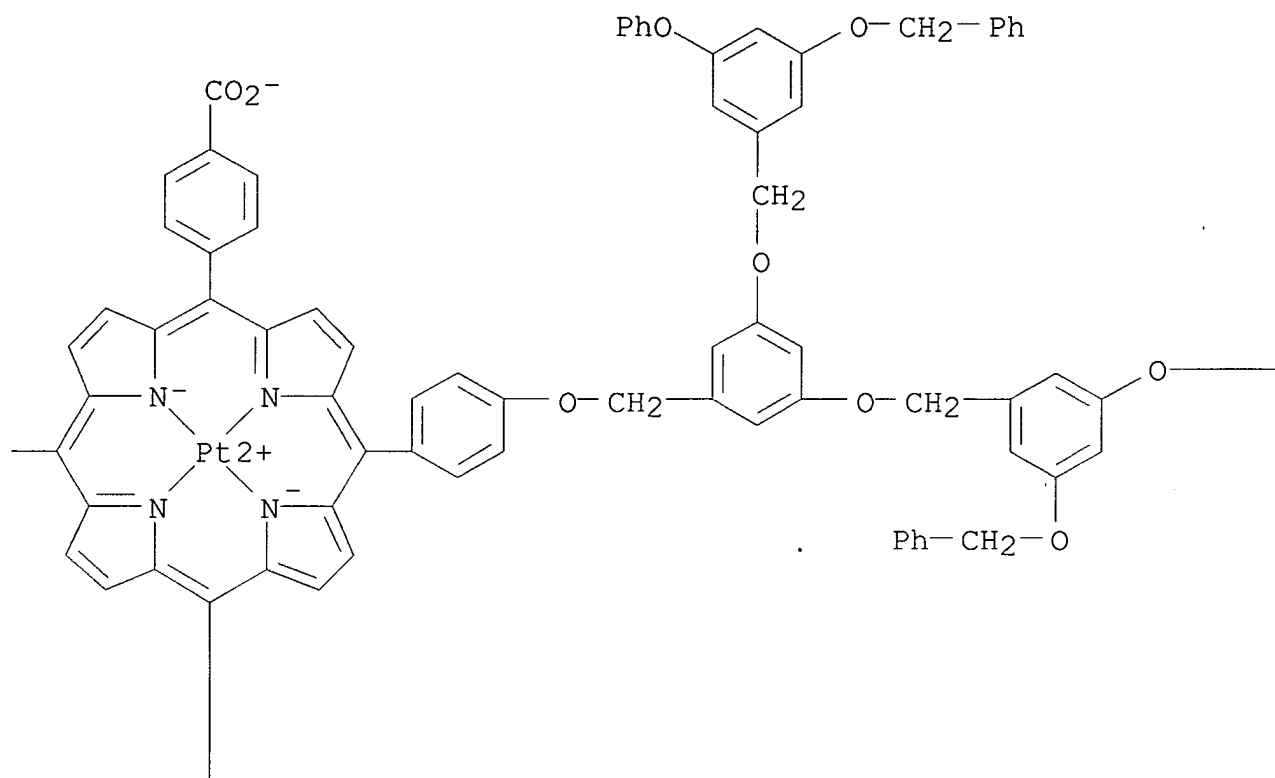


RN 780783-11-1 HCA
CN INDEX NAME NOT YET ASSIGNED

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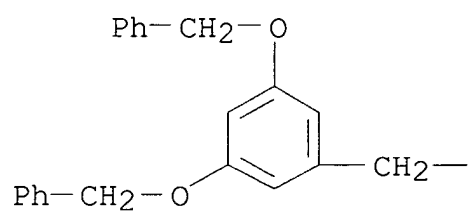
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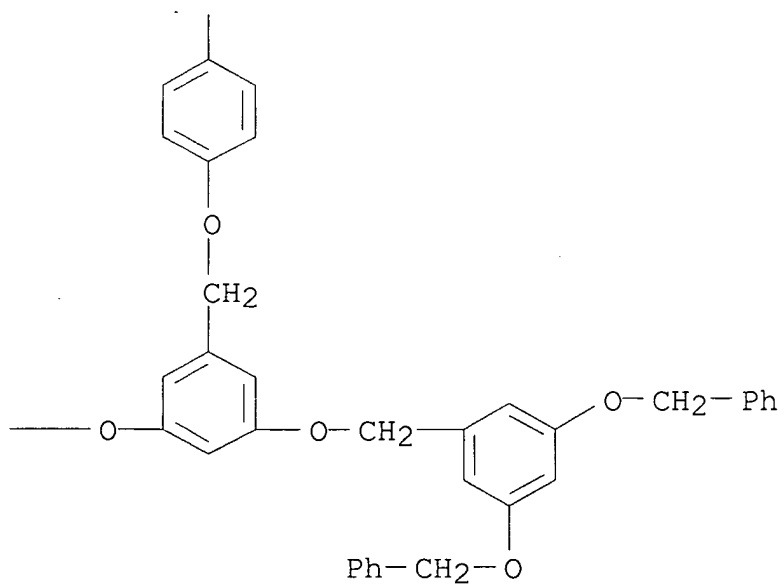
PAGE 1-C

-CH₂-Ph

PAGE 2-A



PAGE 2-B



IC ICM C07F005-00

CC 35-7 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 73, 78

IT Luminescent substances
(**electroluminescent**; production of luminescent lanthanide(III)-chelated dendritic complexes having light-harvesting effect)

IT 119730-06-2P 202007-73-6P, [5,10,15-Triphenyl-20-(4-methoxycarbonylphenyl)porphyrin]zinc **631842-77-8P**, [5,10,15-Triphenyl-20-(4-methoxycarbonylphenyl)porphyrin]platinum 778612-42-3P 780775-14-6P 780775-18-0P
(intermediate, dendrimer core; production of luminescent lanthanide(III)-chelated dendritic complexes having light-harvesting effect)

IT 95051-10-8P 106359-69-7P, 1-(4-Carboxyphenyl)-naphthalene 107798-98-1P, 5-Phenyldipyrromethane 133849-77-1P, [5,10,15-Triphenyl-20-(4-carboxyphenyl)porphyrin]zinc 167482-99-7P, 5-(4-Methoxycarbonylphenyl)dipyrromethane 414866-50-5P **631842-78-9P**, [5,10,15-Triphenyl-20-(4-carboxyphenyl)porphyrin]platinum 778612-41-2P, 1-(4-Carboxyphenyl)-10 4-(4-methoxyphenyl)naphthalene 780774-78-9P 780774-81-4P 780774-84-7P 780774-87-0P 780774-89-2P 780774-91-6P 780774-93-8P 780774-95-0P 780774-99-4P 780775-05-5P, 9-(4-Carbonylphenyl)-10-(4-methoxyphenyl)anthracene 780775-22-6P 780775-26-0P 780775-34-0P 780775-38-4P 780775-42-0P 780775-46-4P 780775-50-0P 780775-54-4P 780783-04-2P 780783-05-3P **780783-06-4P** **780783-07-5P** 780783-09-7P **780783-10-0P** **780783-11-1P**
(intermediate; production of luminescent lanthanide(III)-chelated dendritic complexes having light-harvesting effect)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 2 OF 24 HCA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 141:288131 HCA

TITLE: Metal complexes with tripodal ligands as charge-carrier blocking materials for electroluminescent devices

INVENTOR(S): Stoebel, Philipp; Spreitzer, Hubert

PATENT ASSIGNEE(S): Covion Organic Semiconductors G.m.b.H., Germany

SOURCE: PCT Int. Appl., 81 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2004081017	A1	20040923	WO 2004-EP2393	20040309
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10310887	A1	20040930	DE 2003-10310887	20030311
PRIORITY APPLN. INFO.:			DE 2003-10310887	A 20030311

OTHER SOURCE(S): MARPAT 141:288131

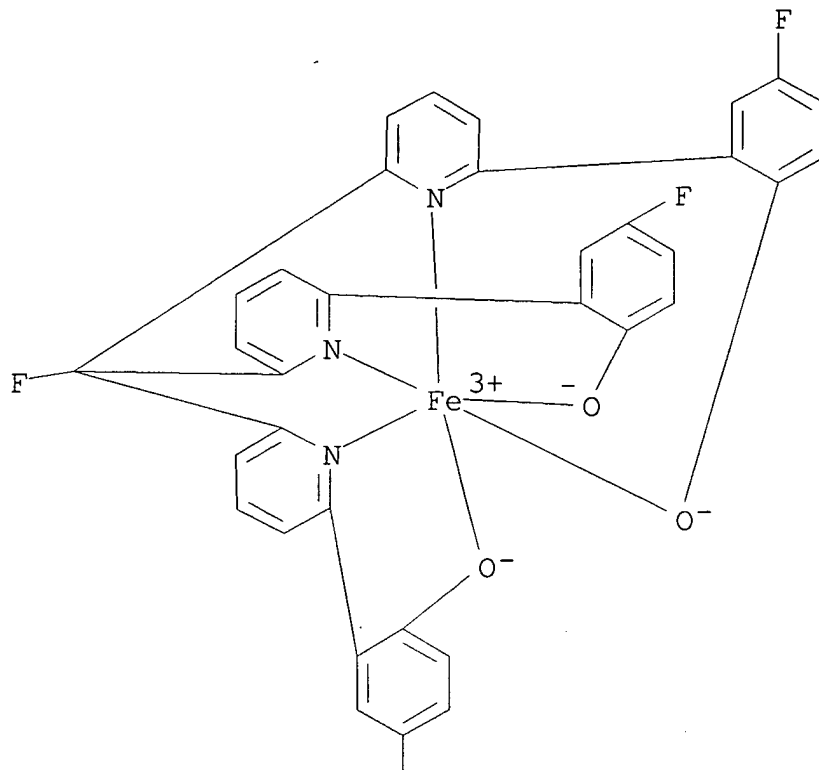
AB Novel metal complexes with tripodal ligands are claimed as charge-carrier blocking materials for electroluminescent devices. For example, the charge-carrier blocking material All (H3L = tris(6-(2-hydroxyphenyl)-2-pyridyl)phosphine oxide) was prepared from Al(OPri)3 and H3L which was prepared starting from oxidation of tris(2-bromo-6-pyridyl)phosphine, followed by methoxylation and subsequently by hydrolysis.

IT 760177-64-8P
 (preparation of charge-carrier blocking material for
electroluminescent devices)

RN 760177-64-8 HCA

CN INDEX NAME NOT YET ASSIGNED

PAGE 1-A



PAGE 2-A

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F

IC ICM C07F001-12
 ICS C07F005-00; C07F015-00
 CC 78-7 (Inorganic Chemicals and Reactions)
 Section cross-reference(s): 27, 29, 73
 IT 760177-61-5P 760177-62-6P 760177-63-7P **760177-64-8P**
 760177-65-9P

(preparation of charge-carrier blocking material for
electroluminescent devices)

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L22 ANSWER 3 OF 24 HCA COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 141:285430 HCA
TITLE: Near-Infrared Photo- and Electroluminescence of
Alkoxy-Substituted Poly(p-phenylene) and
Nonconjugated Polymer/Lanthanide
Tetraphenylporphyrin Blends
AUTHOR(S): Harrison, Benjamin S.; Foley, Timothy J.;
Knefely, Alison S.; Mwaura, Jeremiah K.;
Cunningham, Garry B.; Kang, Tae-Sik;
Bouguettaya, Mohamed; Boncella, James M.;
Reynolds, John R.; Schanze, Kirk S.
CORPORATE SOURCE: Department of Chemistry and Center for
Macromolecular Science and Engineering,
University of Florida, Gainesville, FL,
32611-7200, USA
SOURCE: Chemistry of Materials (2004), 16(15), 2938-2947
CODEN: CMATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The photoluminescent and electroluminescent properties of near-IR
(near-IR) emitting lanthanide monoporphyrinate complexes, Ln(TPP)L
(L = hydridotris(1-pyrazolyl)borate (Tp) or
(cyclopentadienyl)tris(diethylphosphinito)cobaltate(I) L(OEt))
blended into conjugated and nonconjugated polymer hosts were
characterized. A blue-emitting alkoxy-substituted poly(p-phenylene)
(PPP-OR11) was used as the conjugated polymer host and nonconjugated
hosts included polystyrene, poly(Me methacrylate), poly(Bu
methacrylate), and poly(bisphenol A-carbonate). Complete quenching
of the PPP-OR11 host fluorescence (i.e., > 95%) is observed at 5 mol %
of Ln(TPP)Tp, and host quenching is accompanied by sensitization of
near-IR emission from the lanthanide complex. The photoluminescence
results suggest that energy transfer occurs from PPP-OR11 to
Ln(TPP)L, presumably via the Foerster mechanism. Near-IR light
emitting diodes (PLEDs) consisting of Yb(TPP)Tp blended into
PPP-OR11 and the nonconjugated polymer hosts were characterized.
PLEDs fabricated with PPP-OR11 exhibited turn-on voltages of
.apprx.4 V, whereas nonconjugated polymer devices had higher turn-on
voltages (.apprx.8 V), independent of the polymer used. Comparable
external electroluminescence (EL) efficiencies .apprx.10⁻⁴ were
observed from both the conjugated and nonconjugated polymer host
devices. Taken together, the available evidence suggests that the
dominant mechanism operating in the EL devices involves the Ln(TPP)L
complex as the charge-transport material, the center for
electron-hole recombination, and the emitter.

IT 479063-81-5

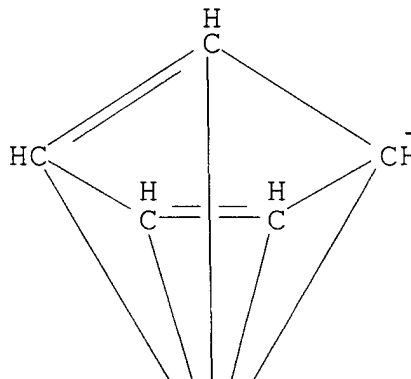
(near-IR photo- and **electroluminescence** of
alkoxy-substituted poly(p-phenylene) and nonconjugated

polymer/lanthanide tetraphenylporphyrin blends)

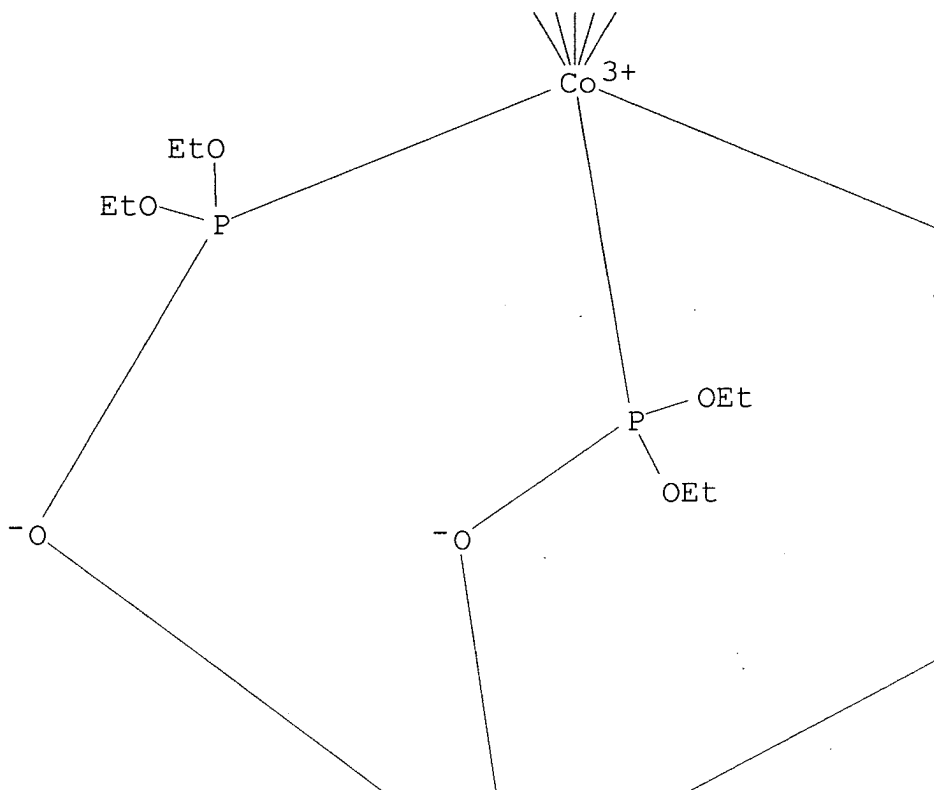
RN 479063-81-5 HCA

CN Ytterbium, [(η^5 -2,4-cyclopentadien-1-yl)cobalt]tris[μ -(diethyl phosphito- $\kappa O''':\kappa P$)] [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)- $\kappa N21,\kappa N22,\kappa N23,\kappa N24$]-, (TPS-7-2-11132'3')- (9CI) (CA INDEX NAME)

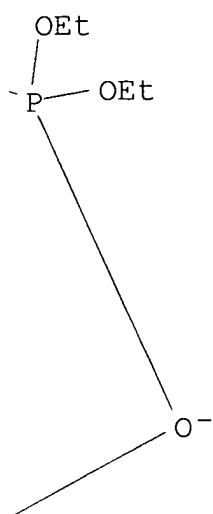
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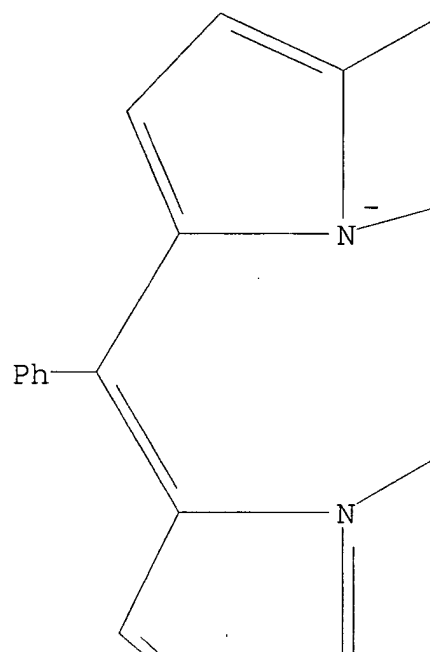
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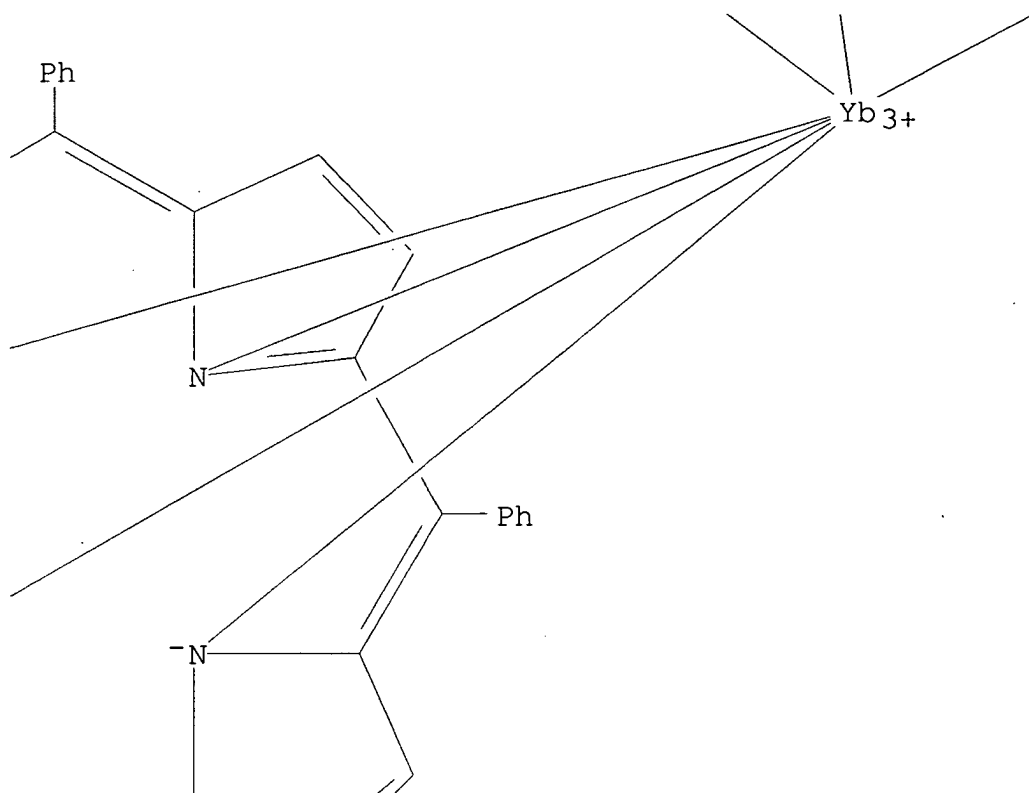
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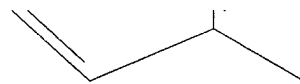
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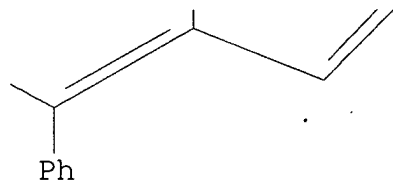
PAGE 3-B



PAGE 4-A



PAGE 4-B



Properties)

IT 9003-53-6, Polystyrene 9011-14-7, PMMA 25037-45-0,
Poly(Bisphenol-A-carbonate) 187754-90-1 478931-86-1
478931-88-3 478931-89-4 **479063-81-5** 479063-84-8
479063-85-9

(near-IR photo- and **electroluminescence** of
alkoxy-substituted poly(p-phenylene) and nonconjugated
polymer/lanthanide tetraphenylporphyrin blends)

REFERENCE COUNT: 53 THERE ARE 53 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L22 ANSWER 4 OF 24 HCA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 141:156922 HCA

TITLE: One-pot synthesis of new functionalized
azacryptands from resorcinol derivatives for
advanced photonic materials

AUTHOR(S): Ka, Jae-Won; Kim, Hwan Kyu

CORPORATE SOURCE: Center for Smart Light-Harvesting Materials and
Department of Polymer Science & Engineering,
Hannam University, Daejeon, 306-791, S. Korea
SOURCE: Tetrahedron Letters (2004), 45(23), 4519-4523
CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

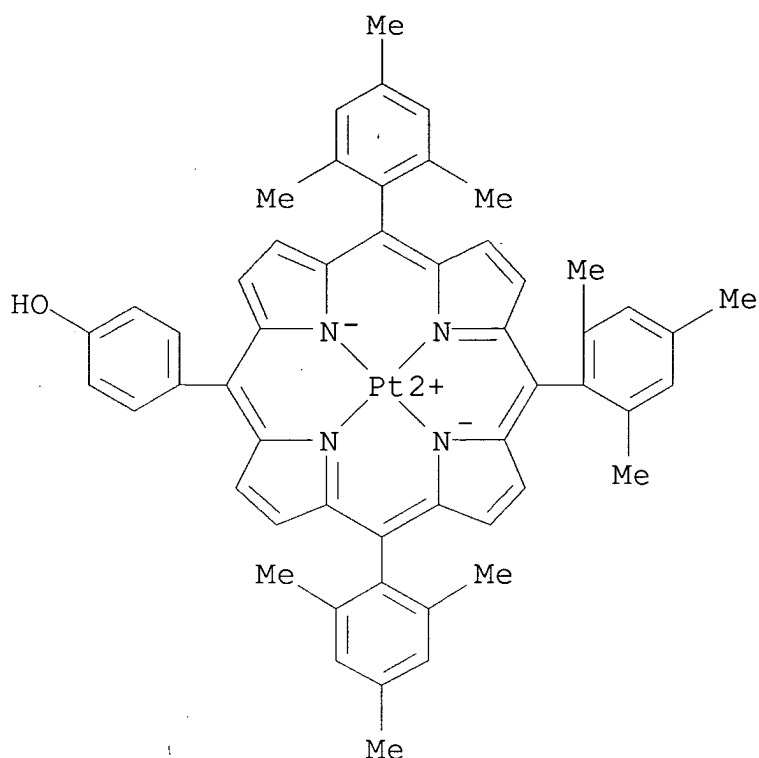
AB Functionalized azacryptands containing resorcinol derivs. such as
orcinol (5-methylresorcinol), 3,5-dihydroxybenzoic acid
(5-carboxyresorcinol), and Me 3,5-dihydroxybenzoate
(5-methoxycarbonylresorcinol) were synthesized by one-pot synthesis
in the presence of potassium carbonate with moderately good yields
for advanced photonic materials, such as optical amplifying and
light-emitting materials, for the first time to
the authors' knowledge. Lanthanide(III)-encapsulated azacryptand
complexes were also synthesized. The structure of the compds. were
established on the basis of spectroscopic data and x-ray diffraction
anal.

IT **727986-76-7**

(one-pot preparation of functionalized azacryptands from resorcinol
derivs. and tris(chloroethyl)amine and formation of their stable
lanthanide complexes)

RN 727986-76-7 HCA

CN Platinum, [4-[10,15,20-tris(2,4,6-trimethylphenyl)-21H,23H-porphin-5-
yl-κN21,κN22,κN23,κN24]phenolato(2-)]-,
(SP-4-2)- (9CI) (CA INDEX NAME)



CC 25-29 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 73, 75, 78

IT 99-10-5, 3,5-Dihydroxybenzoic acid 555-77-1 2150-44-9, Methyl
3,5-dihydroxybenzoate 6153-39-5, Orcinol monohydrate
727986-76-7

(one-pot preparation of functionalized azacryptands from resorcinol
derivs. and tris(chloroethyl)amine and formation of their stable
lanthanide complexes)

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L22 ANSWER 5 OF 24 HCA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 141:30826 HCA

TITLE: Optical or electric devices, and
planar-coordinated organic transition metal
complexes for them

INVENTOR(S): Ikai, Masamichi; Kajioaka, Takanori; Takeuchi,
Hisato; Fujikawa, Hisayoshi; Taga, Yasunori;
Osuka, Atsuhiko

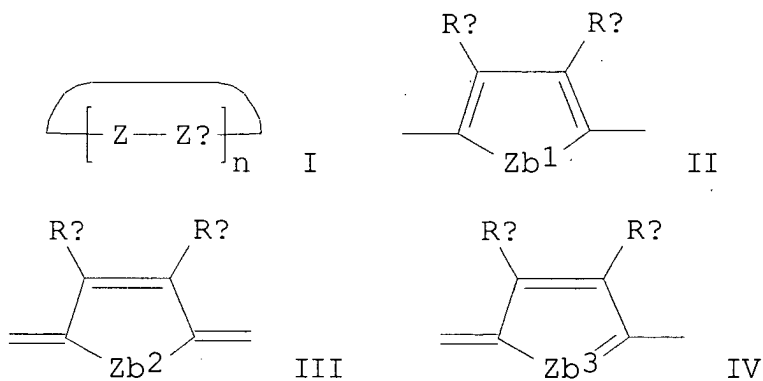
PATENT ASSIGNEE(S): Toyota Central Research and Development
Laboratories, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 62 pp.

DOCUMENT TYPE: CODEN: JKXXAF
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: Japanese 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004155711	A2	20040603	JP 2002-323216	20021106
PRIORITY APPLN. INFO.:			JP 2002-323216	20021106

OTHER SOURCE(S): MARPAT 141:30826
 GI



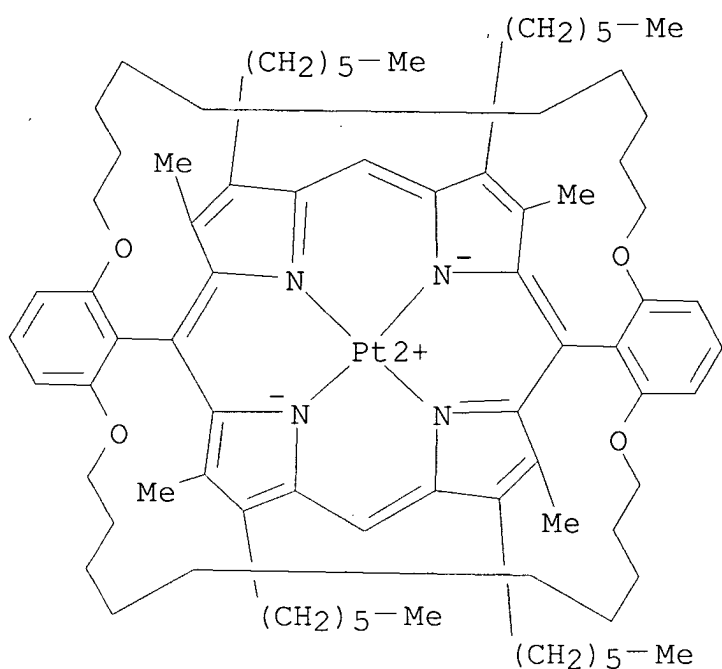
AB The devices use planar-coordinated organic transition metal complexes having ≥ 2 bridged structures above and below the planes, wherein central metals are covered with the structures. Preferably, the devices have luminescent, charge transport, nonlinear optical, gas detection, odor detection, spatial light modulation, photoelec. conversion, optical switch, or rectification properties. The complexes have planar ligands I [$Za = II-IV$; $Zb1-Zb3 = N, NH, C$; $RA, RB = H, C$ -containing substituent; $RARB$ may form ring; $Z = (XRnRn')n1, (:XRn)n2, Arn3, Zln4, :N, :P$; $X = C, Si, CmlSim2$; $Ar = arylene$; $Zl = NR, O, S, PR$; $R = alkyl$; $n1-n4 = natural number$] or are expressed as metalloporphyrins having bridged structures. The bridge structures protect central metals and prevent the complexes from overlapping in thin films, resulting in high-performance devices, e.g., organic **electroluminescent** devices.

IT 699009-45-5P

(dopants in emitter layer; planar-coordinated organic transition metal complexes having central metals covered with bridge structures for organic **electroluminescent** devices)

RN 699009-45-5 HCA

CN Platinum, [24,28,35,42-tetrahexyl-6,7,8,9,10,11,12,13,14,15-decahydro-23,29,36,41-tetramethyl-39H-1,20-(epoxydecanoxy)-27,30-imino-22,25-nitrilo-21,31-([2,5]-endo-pyrrolometheno[2]pyrrolyl[5]ylidene)-25H-dibenzo[m,z][1,12]dioxacycloheptacosinato(2-)- κ N33, κ N39, κ N43, κ N44]-, (SP-4-1)- (9CI) (CA INDEX NAME)

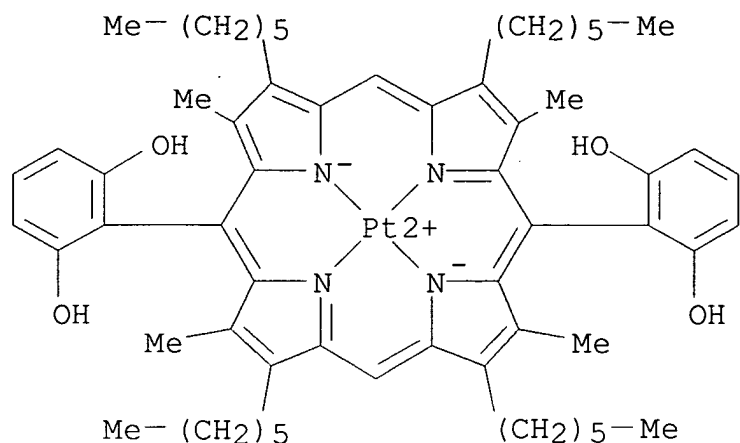


IT 699009-46-6P

(planar-coordinated organic transition metal complexes having central metals covered with bridge structures for organic **electroluminescent** devices)

RN 699009-46-6 HCA

CN Platinum, [[2,2'-(2,8,12,18-tetrahexyl-3,7,13,17-tetramethyl-21H,23H-porphine-5,15-diyl- κ N21, κ N22, κ N23, κ N24)bis[1,3-benzenediolato]](2-)]-, (SP-4-1)- (9CI) (CA INDEX NAME)



- IC ICM C07D487-22
ICS C09K011-06; G02F001-061; G02F001-361; H01L051-00; H05B033-14;
C07F015-00
- CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 52, 76, 78
- ST org **electroluminescent** device bridged metalloporphyrin;
bridged platinum porphyrin org **electroluminescent** device;
optical instrument planar org transition metal complex; gas sensor
planar org transition metal complex; photoelec converter planar org
transition metal complex; rectifier planar org transition metal
complex
- IT **Electroluminescent** devices
(planar-coordinated organic transition metal complexes having
central metals covered with bridge structures for organic
electroluminescent devices)
- IT **699009-45-5P**
(dopants in emitter layer; planar-coordinated organic transition
metal complexes having central metals covered with bridge
structures for organic **electroluminescent** devices)
- IT 699009-47-7
(dopants in emitter layer; planar-coordinated organic transition
metal complexes having central metals covered with bridge
structures for organic **electroluminescent** devices)
- IT 137709-26-3P **699009-46-6P**
(planar-coordinated organic transition metal complexes having
central metals covered with bridge structures for organic
electroluminescent devices)
- IT 16355-92-3, 1,10-Diiododecane 140170-53-2
(planar-coordinated organic transition metal complexes having
central metals covered with bridge structures for organic
electroluminescent devices)

L22 ANSWER 6 OF 24 HCA COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 140:254077 HCA
 TITLE: Reactive dendrimers and their modification and use
 INVENTOR(S): Samuel, Ifor David William; Burn, Paul Leslie; Frampton, Michael John
 PATENT ASSIGNEE(S): Isis Innovation Limited, UK; The University Court of the University of St. Andrews
 SOURCE: PCT Int. Appl., 48 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004020547	A1	20040311	WO 2003-GB3713	20030827

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: GB 2002-20092 A 20020829

AB Methods for modifying ≥ 1 dendron intended to form part of a dendrimer in which the dendron is described by the general formula FO(dendrite-Qa)y (FO = a functional group attached, either directly or via a linking group which can contain one or more reactable unsatd. units, to the first branching atom or group of the dendrite; each dendrite may be the same or different and contains branching atoms or groups and optionally linking groups and comprises at least the first branching atom or group which must have, in addition to FO, ≥ 2 groups attached, ≥ 1 dendrite or, if present the linking group to FO, containing one or more reactable unsatd. units; y

≥ 1 ; Q = a surface group; and a = 0 or an integer, with the restriction that, when a = 0, the distal group of each arm of the or each dendrite is a (hetero)aryl group) are described which entail reacting ≥ 1 reactable unsatd. group in a chemoselective manner to form a less unsatd. group. Similar methods for modifying dendrimers are also described. A group which has been reacted by a chemoselective reaction may subsequently be reacted further. The chemoselective reaction may be an addition reaction, including a cycloaddn. reaction, or a reaction such as hydrogenation or hydrohalogenation, halogenation, hydrosilylation, or hydroboration followed by oxidation. The dendrimer may be luminescent, fluorescent, or phosphorescent. Dendrimers, including organometallic dendrimers, are also described. Organic **light-emitting** devices and photovoltaic devices are described which employ the dendrimers.

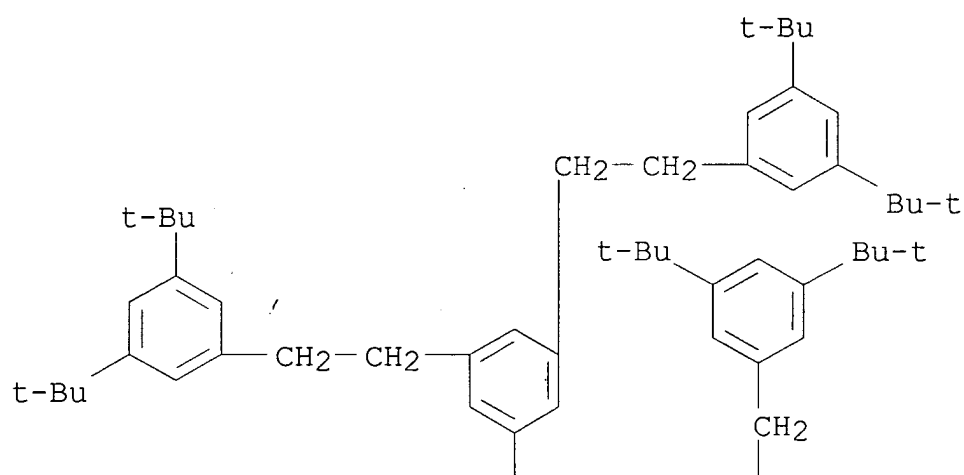
IT 670260-17-0P

(modification of reactive dendrimers and the dendrimers and their use)

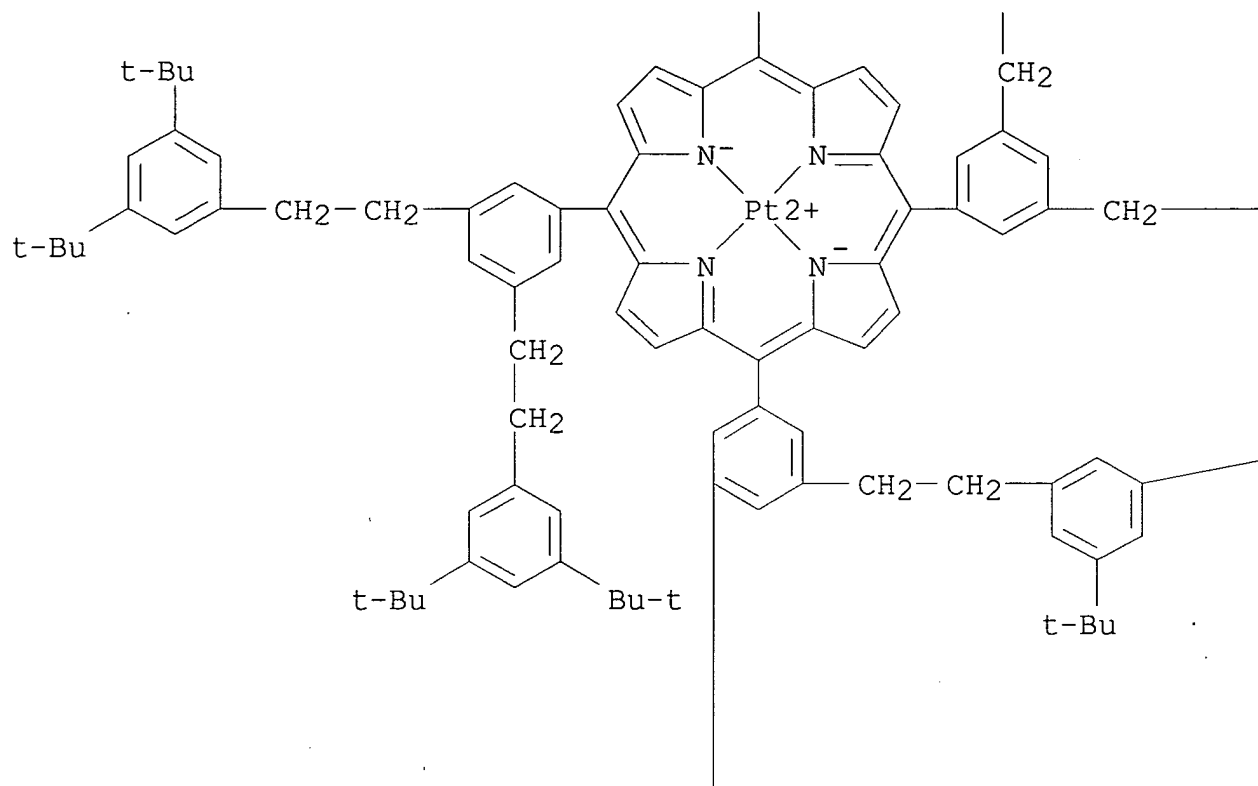
RN 670260-17-0 HCA

CN Platinum, [5,10,15,20-tetrakis[3,5-bis[2-[3,5-bis(1,1-dimethylethyl)phenyl]ethyl]phenyl]-21H,23H-porphinato(2-)-
 $\kappa N21, \kappa N22, \kappa N23, \kappa N24$]-, (SP-4-1)-(9CI) (CA
INDEX NAME)

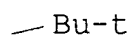
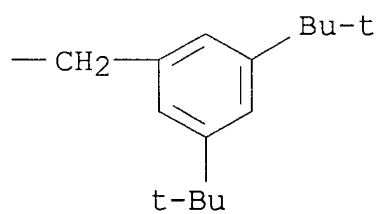
PAGE 1-A



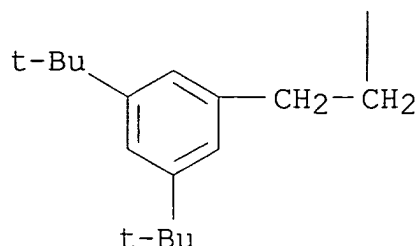
PAGE 2-A



PAGE 2-B



PAGE 3-A



IC ICM C09K011-06
 ICS H05B033-14; H01L051-20; H01L051-30; C08G083-00
 CC 35-4 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 52, 73, 76
 ST reactive dendrimer modification; org **light emitting** device reactive dendrimer; photovoltaic device
 reactive dendrimer; luminescent reactive dendrimer; fluorescent
 reactive dendrimer; phosphorescent reactive dendrimer
 IT Addition reaction
 Cycloaddition reaction
Electroluminescent devices
 Fluorescent substances
 Halogenation
 Hydroboration
 Hydrogenation
 Hydrohalogenation
 Hydrosilylation
 Luminescent substances
 Phosphorescent substances
 Photoelectric devices
 (modification of reactive dendrimers and the dendrimers and their
 use)
 IT **670260-17-0P** 670260-18-1P 670274-51-8P
 (modification of reactive dendrimers and the dendrimers and their
 use)
 REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN
 THE RE FORMAT

L22 ANSWER 7 OF 24 HCA COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 139:343251 HCA
 TITLE: Efficient white and red light emission from
 GaN/tris-(8-hydroxyquinolato)
 aluminum/platinum(II) meso-
 tetrakis(pentafluorophenyl) porphyrin hybrid
light-emitting diodes
 AUTHOR(S): Xiang, Hai-Feng; Yu, Sze-Chit; Che, Chi-Ming;

CORPORATE SOURCE: Lai, P. T.
Department of Chemistry and the HKU-CAS Joint
Laboratory on New Materials, The University of
Hong Kong, Hong Kong SAR, Peop. Rep. China

SOURCE: Applied Physics Letters (2003), 83(8), 1518-1520
CODEN: APPLAB; ISSN: 0003-6951

PUBLISHER: American Institute of Physics

DOCUMENT TYPE: Journal

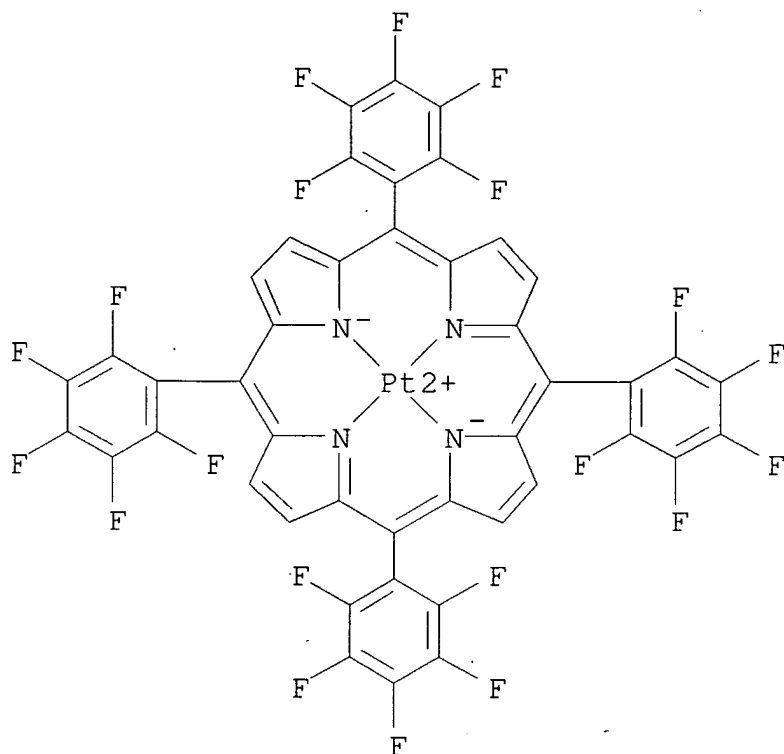
LANGUAGE: English

AB Efficient white and red light emission is reported from GaN
(LED)/tris(8-hydroxyquinolinato)aluminum (Alq3)/meso-
tetrakis(pentafluorophenyl)porphyrinatoplatinum(II) (PtF20TPP)
hybrid LEDs. Alq3 was used to enhance the efficiency of red and
white luminescence conversion (LC) LEDs through energy transfer from
Alq3 to PtF20TPP. In the white LC-LED, an intense, highly pure
white-light emission with CIE 1931 coordinates at $x = 0.32$ and $y =$
 0.31 is obtained. The LC-LEDs have relatively high efficiencies,
3.3% for white LC-LED and 4.0% for red LC-LED. The color temperature
(Tc), color rendering index (Ra), and luminous efficiency (η_L)
of the white LC-LED at 20 mA are 6800 K, 90.6, and 10 lm/W, resp.

IT 109781-47-7, meso-5,10,15,20-Tetrakis(pentafluorophenyl)porp
hyrinatoplatinum
(efficient white and red light emission from gallium
nitride/aluminum hydroxyquinolinato complex hybrid LEDs with)

RN 109781-47-7 HCA

CN Platinum, [5,10,15,20-tetrakis(pentafluorophenyl)-21H,23H-
porphinato(2-)- $\kappa N21, \kappa N22, \kappa N23, \kappa N24$]-,
(SP-4-1)- (9CI) (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 76

IT **Electroluminescent** devices

(efficient white and red light emission from gallium nitride/aluminum hydroxyquinolinato complex/platinum tetrakis(pentafluorophenyl)porphyrinato complex hybrid LEDs)

IT **109781-47-7**, meso-5,10,15,20-Tetrakis(pentafluorophenyl)porphyrinatoplatinum

(efficient white and red light emission from gallium nitride/aluminum hydroxyquinolinato complex hybrid LEDs with)

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 8 OF 24 HCA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 139:323547 HCA

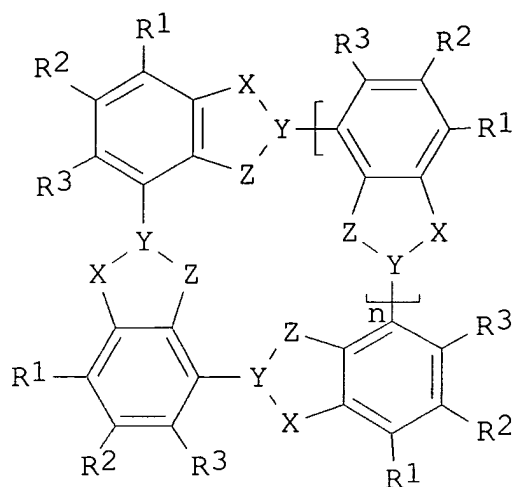
TITLE: Preparation of cyclic compounds and the use thereof as **light absorbers**, **light emitters**, or complex ligands

INVENTOR(S): Koenemann, Martin; Gessner, Thomas; Sens, Ruediger; Lennartz, Christian; Seybold, Guenther

PATENT ASSIGNEE(S): Basf Aktiengesellschaft, Germany
 SOURCE: PCT Int. Appl., 75 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003084960	A1	20031016	WO 2003-EP3538	20030404
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10214937	A1	20031016	DE 2002-10214937	20020404
PRIORITY APPLN. INFO.:			DE 2002-10214937	A 20020404

OTHER SOURCE(S): CASREACT 139:323547; MARPAT 139:323547
 GI



I

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preparation
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of I via cyclization of benzene derivs. II (R4 = CO2H; n = 1, 2; X = N; Z = N, O; whereby the OH group as the alkali metal or ammonium salt and/or the NH2 group either protonated or as NO, NO2, N:N-aryl, :NOH, :NH) is cyclized in the presence of a metal salt or powder. Thus, cyclo-2,4':2'7'':2'',4''':2''',7-quaterbenzimidazole (I; XYZ = NHC:N, R1 - R3 = H, n = 1) was prepared from ammonium 2,3-diaminobenzoate by heating to 100° in the presence of 85% polyphosphoric acid.

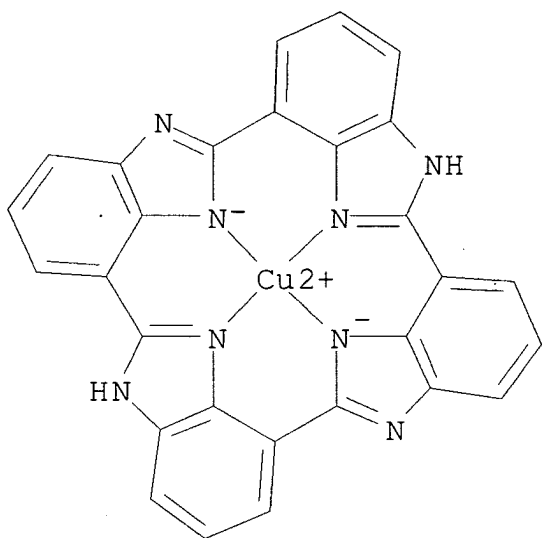
IT 27199-20-8P 613263-87-9P 613263-89-1P
613263-90-4P

(preparation and use of, in OLED's; preparation of cyclic compds.
for use

as light absorbers, light emitters,
or complex ligands)

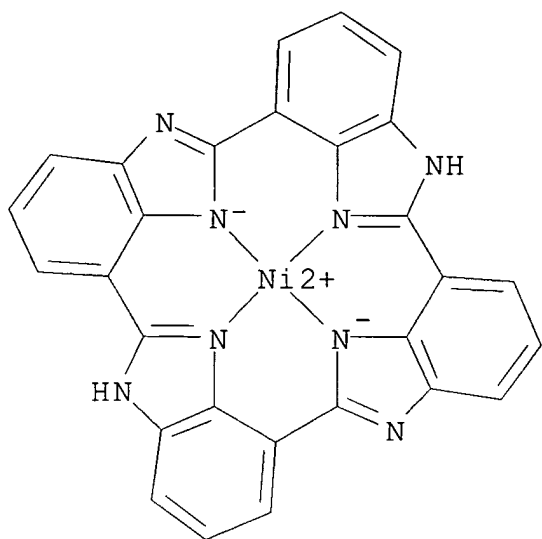
RN 27199-20-8 HCA

CN Copper, [11H,23H-4,6:16,18-diimino-10,12:22,24-
dinitrilotetrabenzo[b,f,j,n][1,5,9,13]tetraazacyclohexadecinato(2-)-
 $\kappa N5, \kappa N11, \kappa N17, \kappa N23$]-, (SP-4-1)- (9CI) (CA
INDEX NAME)

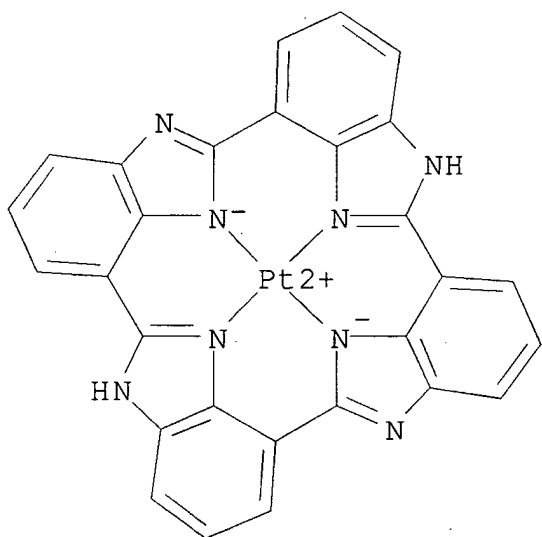


RN 613263-87-9 HCA

CN Nickel, [11H,23H-4,6:16,18-diimino-10,12:22,24-
dinitrilotetrabenzo[b,f,j,n][1,5,9,13]tetraazacyclohexadecinato(2-)-
 $\kappa N5, \kappa N11, \kappa N17, \kappa N23$]-, (SP-4-1)- (9CI) (CA
INDEX NAME)

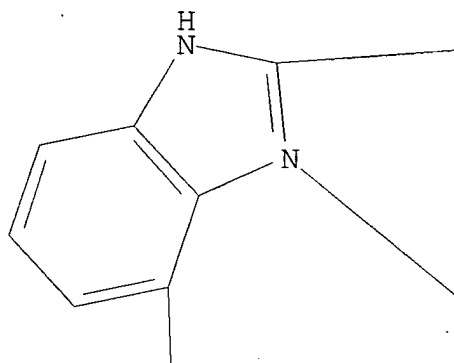


RN 613263-89-1 HCA
 CN Platinum, [11H,23H-4,6:16,18-diimino-10,12:22,24-dinitrilotetrabenzo[b,f,j,n][1,5,9,13]tetraazacyclohexadecinato(2-)-κN5,κN11,κN17,κN23]-, (SP-4-1)-(9CI) (CA INDEX NAME)

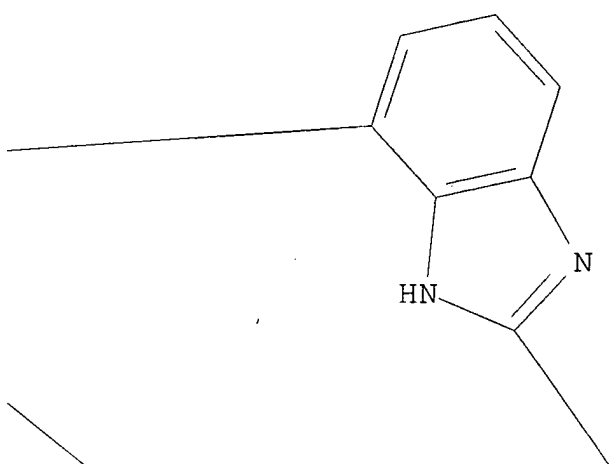


RN 613263-90-4 HCA
 CN Platinum, [4,6:10,12:16,18:22,24:28,30-pentaiminopentabenzob[f,j,n,r][1,5,9,13,17]pentaazacycloeicosinato(2-)-κN5,κN11,κN17,κN31]-, (SP-4-2)-(9CI) (CA INDEX NAME)

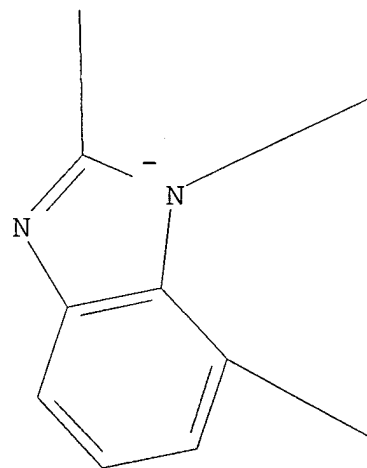
PAGE 1-A



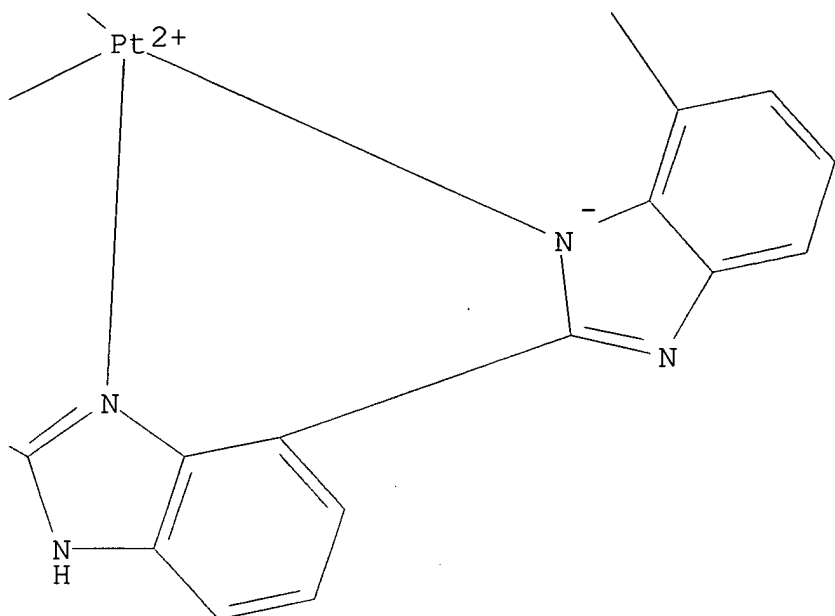
PAGE 1-B



PAGE 2-A



PAGE 2-B



- IC ICM C07D487-22
ICS C07D498-22; C07D513-22; H01L051-30; B01J031-02; C09B067-00;
A61K007-40; C07D257-00; C07D235-00; C07D259-00
- CC 28-23 (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): 29, 62, 67, 73, 78
- ST cyclic compd complex ligand prepn **light** absorber
emitter; dispersing pigment cyclic compd synergist prepn;
OLED **light emitter** cyclic compd prepn; hole
injection layer OLED cyclic compd prepn; phase transfer catalyst aza
crown ether prepn; optical data storage cyclic compd prepn
- IT **Electroluminescent** devices
(OLED's, hole-injection layers or **light-**
emitting compds. in; preparation of cyclic compds. for use as
light absorbers, **light emitters**, or
complex ligands)
- IT Phenols, reactions
(amino, carboxylated, cyclocondensation of, azacrown ethers from;
preparation of cyclic compds. for use as **light** absorbers,
light emitters, or complex ligands)
- IT Organometallic compounds
(azacrown ether complexes; preparation of cyclic compds. for use as
light absorbers, **light emitters**, or
complex ligands)
- IT Pigments, nonbiological
(azacrown ether synergists for dispersion; preparation of cyclic
compds. for use as **light** absorbers, **light**

- emitters, or complex ligands)**
- IT Light sources
 - Optical recording
 - Phase transfer catalysts
 - (azacrown ethers; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**
- IT Optical absorption
 - (by azacrown ethers; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**
- IT Lacquers
 - Laminated materials
 - (containing light absorbing cyclic compds.; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**
- IT Salts, uses
 - (cyclization catalysts; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**
- IT Cyclization
 - (of hydroxy- and aminobenzoates in; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**
- IT Amines, reactions
 - (phenolic, carboxylated, cyclocondensation of, azacrown ethers from; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**
- IT Metals, uses
 - (powders, cyclization catalysts; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**
- IT Azacrown ethers
 - Cyclic compounds
 - (preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**
- IT Cooperative phenomena
 - (synergism, of azacrown ether for dispersing pigments; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**
- IT Chelation
 - (template, in cyclization of hydroxy- and aminobenzoates; preparation

- of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**
- IT 11-84-1, 2-Amino-4-methylphenol
(thermoplastics, containing light absorbing cyclic compds.; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**
- IT 95-84-1, 2-Amino-4-methylphenol
(N-acetylation of; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**
- IT 5959-52-4, 3-Amino-2-naphthoic acid
(amination of, with sulfobenzenediazonium salt; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**
- IT 1779-11-9P, 7-Bromo-3-hydroxy-2-naphthoic acid
(amination of, with sulfobenzenediazonium salt; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**
- IT 105-60-2, Caprolactam, reactions 288-32-4, Imidazole, reactions 15438-71-8, N-(Hydroxymethyl)pyrrolidin-2-one 612806-14-1, N-(Hydroxymethyl)-5-(tert-Butyl)caprolactam
(aminomethylation by, of cycloquaternaphtho[1,2-d]oxazole; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**
- IT 140-66-9, 4-(tert-Octyl)phenol
(carboxylation of; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**
- IT 616-47-7, N-Methylimidazole
(condensation of, with paraformaldehyde and cycloquaternaphtho[1,2-d]oxazole; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**
- IT 548-93-6, 3-Hydroxyanthranilic acid 94840-46-7
(cyclocondensation of; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**
- IT 121-57-3, Sulfanilic acid
(diazotization and reaction of, with naphthalenecarboxylic acid derivs.; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**
- IT 33955-43-0
(pigment dispersion with cycloquaternaphtho[1,2-d]oxazole; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**

of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**

IT 612806-10-7P, Methyl 3-nitro-5-(tert-octyl)salicylate
(preparation and amidation of; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**)

IT 6375-17-3P
(preparation and caboxylation of; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**)

IT 13065-86-6P 612806-03-8P, 4-Amino-7-bromo-3-hydroxy-2-naphthoic acid 612806-05-0P, Bis(2-amino-3-carboxyphenylammonium) hydrogen phosphate 612806-09-4P, 3-Amino-5-methylsalicyclic acid disodium salt 612806-12-9P, 3-Amino-5-(tert-octyl)salicylamide 612806-13-0P, 3,4-Diamino-2-naphthoic acid
(preparation and cyclocondensation of; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**)

IT 16094-35-2, 5-(tert-Octyl)salicylic acid
(preparation and esterification of; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**)

IT 50869-10-8P, 5-(tert-Octyl)salicylic acid methyl ester
(preparation and nitration of; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**)

IT 612806-11-8P, 3-Nitro-5-(tert-octyl)salicylamide
(preparation and reduction of; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**)

IT 612806-08-3P, 2-Carboxy-4-methylbenzoxazolidinone
(preparation and saponification of; preparation of cyclic compds. for use as **light absorbers, light emitters, or complex ligands)**)

IT 27199-20-8P 467231-63-6P 612805-99-9P 612806-00-5P
612806-01-6P 612806-02-7P 612806-04-9P 612806-07-2P
612838-52-5P 613263-87-9P 613263-88-0P
613263-89-1P 613263-90-4P 613680-00-5P
613680-01-6P 613680-02-7DP, 1.3 degree of substitution
613680-03-8DP, 8.2 degree of substitution 613680-04-9P
613680-05-0P 613680-06-1P 613680-07-2DP, homologs

613680-08-3DP, homologs 613680-09-4P 613680-10-7P 613680-11-8P
613680-12-9P 615286-74-3P 615286-83-4P, Cycloquaterbenzoxazole
(preparation and use of, in OLED's; preparation of cyclic compds.
for use
as **light absorbers, light emitters,**
or complex ligands)
IT 612806-06-1P, N-Acetyl-2-carboxy-4-methylbenzoxazolidinone
(preparation of cyclic compds. for use as **light absorbers,**
light emitters, or complex ligands)
IT 8007-56-5, Nitrohydrochloric acid
(preparation of cyclic compds. for use as **light absorbers,**
light emitters, or complex ligands)
IT 614716-42-6P, Cyclo-2,9':2',9'':2'',9''':2''',9-quaternaphtho[1,2-
d]oxazole
(preparation, chlorination, sulfonation or aminomethylation and use
of, in OLED's; preparation of cyclic compds. for use as **light**
absorbers, light emitters, or complex
ligands)
IT 612805-98-8P
(preparation, metalation and use of, in OLED's; preparation of
cyclic
compds. for use as **light absorbers, light**
emitters, or complex ligands)
IT 25797-72-2P, Cyclo-2,4':2',7'':2'',4''':2''',7-quaterbenzimidazole
(preparation, methylation or metalation and use of, in OLED's;
preparation
of cyclic compds. for use as **light absorbers,**
light emitters, or complex ligands)
IT 5281-04-9
(reductive bond cleavage of; preparation of cyclic compds. for use
as
light absorbers, light emitters, or
complex ligands)
IT 467231-64-7, Ammonium 2,3-diaminobenzoate
(salt transfer or cyclocondensation of; preparation of cyclic
compds.
for use as **light absorbers, light**
emitters, or complex ligands)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L22 ANSWER 9 OF 24 HCA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 139:323377 HCA

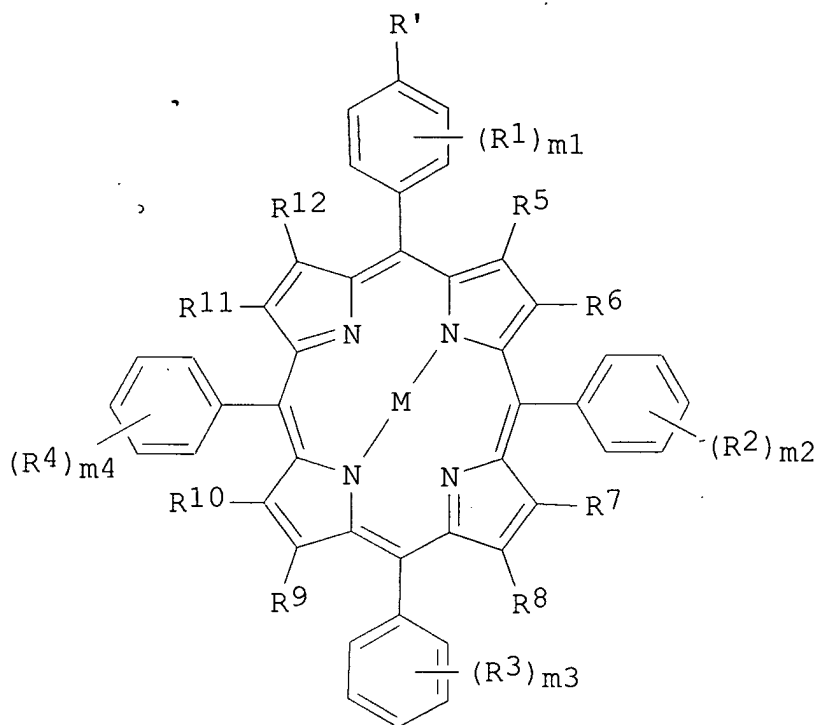
TITLE: Substituted porphyrin compounds, preparation of
their molecular assemblies, and applications of
the assemblies

INVENTOR(S): Yokoyama, Shizuyoshi; Uejo, Toshiya; Masuko,

PATENT ASSIGNEE(S): Nobuo; Yokoyama, Takashi
Tsushin Sogo Kenkyusho, Japan; National
Institute for Research In Inorganic Materials
SOURCE: Jpn. Kokai Tokkyo Koho, 26 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 2003300983	A2	20031021	JP 2002-106940	200204 09
PRIORITY APPLN. INFO.:			JP 2002-106940	200204 09

OTHER SOURCE(S): MARPAT 139:323377
GI



I

AB The compds. are represented by I [M = 2H, divalent metal, trivalent metal derivs., tetravalent metal derivs.; R' = C2-12 alkenyl(oxy), C3-6 dienyl, C2-12 alkynyl(oxy), OH, C1-12 alkoxy, carbamoyl, NH₂, cyano, NO₂, C1-12 alkylsulfonyl, alkoxyaminocarbonyl, halo, etc.; R1-R4 = H, C1-12 (halo)alkyl, C2-12 alkenyl, C2-30 alkenyloxy, C3-6 dienyl, C2-12 alkynyl, OH, arylamino, sulfamoyl, etc.; m1 = 1-4; m2-m4 = 1-5; R5-R12 = H, halo, amino, OH, NO₂, cyano, (un)substituted C1-3 alkyl]. Mol. assemblies of I or other porphyrin compds. (Markush structure are given) are prepared by depositing the porphyrin compds. on a metal thin film formed on a solid surface. Also claimed are mol. assemblies comprising regularly-arranged unit assemblies containing 3 or 4 mols. of the porphyrin compds. per unit or linearly arranged mol. assemblies of the porphyrin compds. Catalysts, recording media, electrophotog. photoreceptors, and organic electroluminescent devices using the porphyrin compds. or their mol. assemblies are also claimed.

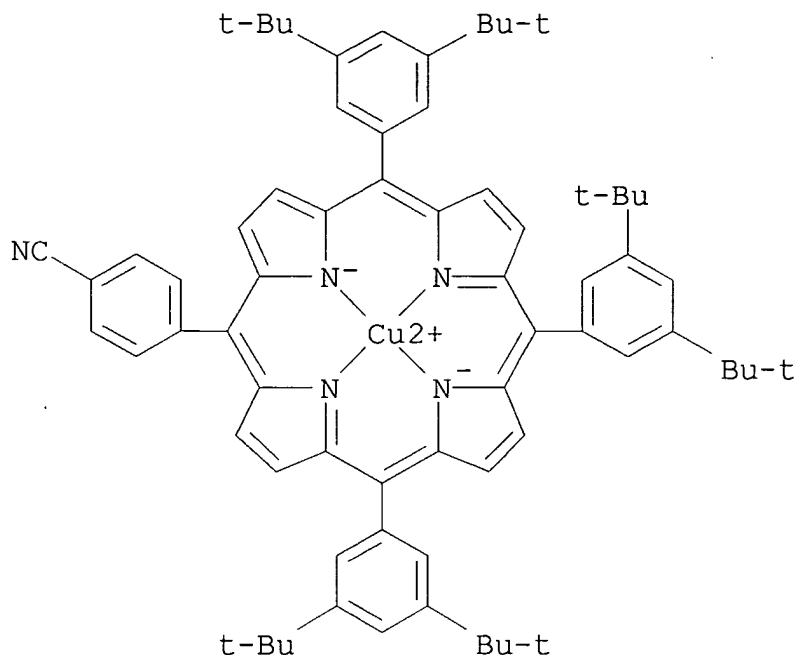
IT **614757-53-8P**

(preparation of substituted porphyrin compds. and their mol. assemblies for catalysts, recording media, electrophotog. photoreceptors, and organic EL devices)

RN 614757-53-8 HCA

CN Copper, [4-[10,15,20-tris[3,5-bis(1,1-dimethylethyl)phenyl]-21H,23H-

porphin-5-yl- κ N21, κ N22, κ N23, κ N24]benzonitril
ato(2-)]-, (SP-4-2)- (9CI) (CA INDEX NAME)



IC ICM C07D487-22
ICS B41M005-26; C07F001-08; C09K011-06; H05B033-14; H05B033-22
CC 26-7 (Biomolecules and Their Synthetic Analogs)
Section cross-reference(s): 66, 67, 74, 78

IT 124856-09-3P 124856-10-6P 226083-66-5P 227287-28-7P
290823-80-2P 305344-45-0P 354566-46-4P 476313-43-6P
614752-71-5P 614752-72-6P 614752-73-7P 614752-74-8P
614752-75-9P 614752-76-0P 614752-77-1P 614752-78-2P
614757-53-8P

(preparation of substituted porphyrin compds. and their mol.
assemblies for catalysts, recording media, electrophotog.
photoreceptors, and organic EL devices)

L22 ANSWER 10 OF 24 HCA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 139:187581 HCA

TITLE: [meso-Tetrakis(pentafluorophenyl)porphyrinato]pl
atinum(ii) as an efficient, oxidation-resistant
red phosphor: spectroscopic properties and
applications in organic **light-**
emitting diodes

AUTHOR(S): Che, Chi-Ming; Hou, Yuan-Jun; Chan, Michael C.
W.; Guo, Jianhua; Liu, Yu; Wang, Yue

CORPORATE SOURCE: Department of Chemistry and HKU-CAS Joint
Laboratory on New Materials, The University of

SOURCE: Hong Kong, Hong Kong SAR, Peop. Rep. China
Journal of Materials Chemistry (2003), 13(6),
1362-1366
CODEN: JMACEP; ISSN: 0959-9428

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

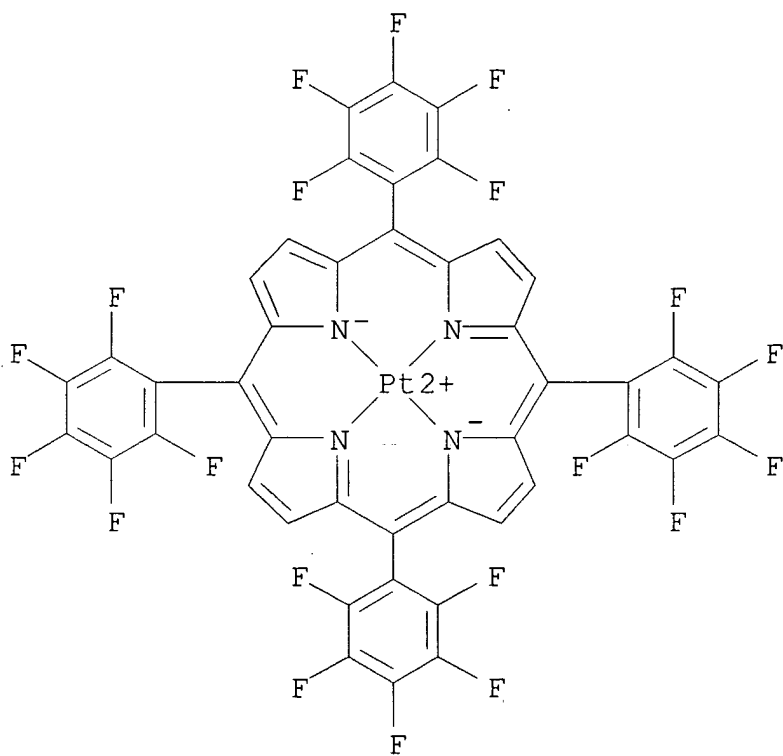
LANGUAGE: English

AB [Meso-Tetrakis(pentafluorophenyl)porphyrinato]platinum(ii)
(PtF20TPP) exhibits strong red phosphorescence and high stability
with respect to oxidative degradation OLEDs affording efficient
saturated
red emission have been fabricated using the PtF20TPP dopant.

IT 109781-47-7
(spectroscopic properties and applications in organic light
-emitting diodes of [meso-Tetrakis(pentafluorophenyl)po
rphyrinato]platinum(ii) as efficient, oxidation-resistant red
phosphor)

RN 109781-47-7 HCA

CN Platinum, [5,10,15,20-tetrakis(pentafluorophenyl)-21H,23H-
porphinato(2-)-κN21,κN22,κN23,κN24]-,
(SP-4-1)- (9CI) (CA INDEX NAME)

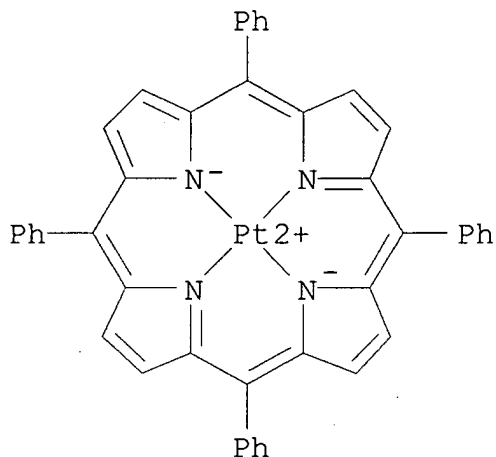


IT 14187-14-5
(spectroscopic properties and applications in organic light

-**emitting** diodes of [meso-Tetrakis(pentafluorophenyl)porphyrinato]platinum(ii) as efficient, oxidation-resistant red phosphor)

RN 14187-14-5 HCA

CN Platinum, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-
κN21,κN22,κN23,κN24]-, (SP-4-1)- (9CI) (CA
INDEX NAME)



CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 78

ST tetrakis pentafluorophenyl porphyrinato platinum red phosphor
phosphorescence **electroluminescent** device

IT Doping

(effect of PtF20TPP doping concentration; spectroscopic properties and

applications in organic **light-emitting** diodes of [meso-Tetrakis(pentafluorophenyl)porphyrinato]platinum(ii) as efficient, oxidation-resistant red phosphor)

IT Phosphors

(**electroluminescent**; spectroscopic properties and applications in organic **light-emitting** diodes of [meso-Tetrakis(pentafluorophenyl)porphyrinato]platinum(ii) as efficient, oxidation-resistant red phosphor)

IT **Electroluminescent** devices

(red-emitting, electro-phosphorescent; spectroscopic properties and applications in organic **light-emitting** diodes of [meso-Tetrakis(pentafluorophenyl)porphyrinato]platinum(ii) as efficient, oxidation-resistant red phosphor)

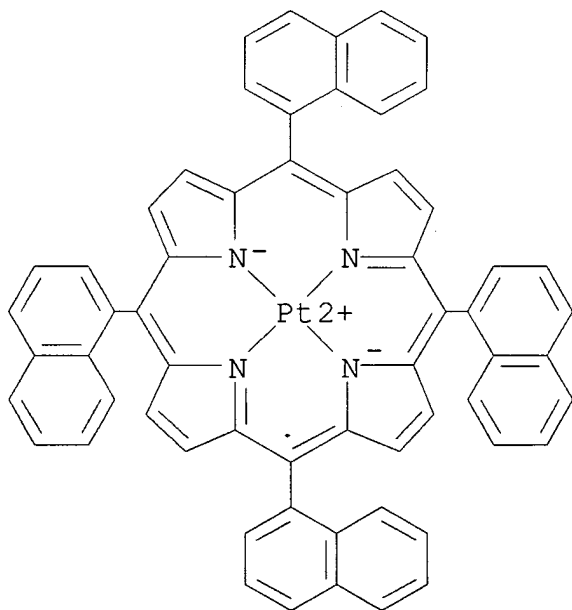
IT Phosphors

(red-emitting; spectroscopic properties and applications in organic **light-emitting** diodes of [meso-

- Tetrakis(pentafluorophenyl)porphyrinato]platinum(ii) as efficient, oxidation-resistant red phosphor)
- IT Phosphorescence
(red; spectroscopic properties and applications in organic **light-emitting** diodes of [meso-Tetrakis(pentafluorophenyl)porphyrinato]platinum(ii) as efficient, oxidation-resistant red phosphor)
- IT Electric current-potential relationship
(spectroscopic properties and applications in organic **light-emitting** diodes of [meso-Tetrakis(pentafluorophenyl)porphyrinato]platinum(ii) as efficient, oxidation-resistant red phosphor)
- IT Luminescence, **electroluminescence**
(voltage-dependent; spectroscopic properties and applications in organic **light-emitting** diodes of [meso-Tetrakis(pentafluorophenyl)porphyrinato]platinum(ii) as efficient, oxidation-resistant red phosphor)
- IT 220694-90-6
(PtF20TPP-doped **electroluminescent** layer; spectroscopic properties and applications in organic **light-emitting** diodes of [meso-Tetrakis(pentafluorophenyl)porphyrinato]platinum(ii) as efficient, oxidation-resistant red phosphor)
- IT 147-14-8, Copper phthalocyanine
(buffer layer; spectroscopic properties and applications in organic **light-emitting** diodes of [meso-Tetrakis(pentafluorophenyl)porphyrinato]platinum(ii) as efficient, oxidation-resistant red phosphor)
- IT 123847-85-8, NPB
(hole-transporting layer; spectroscopic properties and applications in organic **light-emitting** diodes of [meso-Tetrakis(pentafluorophenyl)porphyrinato]platinum(ii) as efficient, oxidation-resistant red phosphor)
- IT 109781-47-7
(spectroscopic properties and applications in organic **light-emitting** diodes of [meso-Tetrakis(pentafluorophenyl)porphyrinato]platinum(ii) as efficient, oxidation-resistant red phosphor)
- IT 14187-14-5
(spectroscopic properties and applications in organic **light-emitting** diodes of [meso-Tetrakis(pentafluorophenyl)porphyrinato]platinum(ii) as efficient, oxidation-resistant red phosphor)

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 139:140633 HCA
TITLE: Red **electroluminescent** devices based
on a porphyrin metal complex
AUTHOR(S): Guo, Jianhua; Ye, Kaiqi; Wu, Ying; Liu, Yu;
Wang, Yue
CORPORATE SOURCE: Key Laboratory for Supramolecular Structure and
Materials of Ministry of Education, Jilin
University, Changchun, 130023, Peop. Rep. China
SOURCE: Synthetic Metals (2003), 137(1-3), 1075-1076
CODEN: SYMEDZ; ISSN: 0379-6779
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A red luminescent tetra(1-naphthyl)porphyrin Pt(II) (PtTNP) was
synthesized as an **electroluminescent** material. The
photoluminescent and **electroluminescent** properties of
PtTNP were studied. PtTNP exhibits strong red photoluminance at 655
nm in solution. The authors report that PtTNP can be used as an
emitting material to fabricate **electroluminescent** devices.
PtTNP shows red **electroluminescent** emission at 655 nm with
maximum efficiency of 1.47 cd/A.
IT 566878-51-1P
(red LEDs based on porphyrin metal complex)
RN 566878-51-1 HCA
CN Platinum, [5,10,15,20-tetra-1-naphthalenyl-21H,23H-porphinato(2-)-
κN21,κN22,κN23,κN24]-, (SP-4-1)- (9CI) (CA
INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 22, 28
ST LED red porphyrin complex metal; platinum complex porphyrin naphthyl
LED red; UV visible spectra platinum complex porphyrin naphthyl;
luminescence platinum complex porphyrin naphthyl; current voltage
LED platinum complex porphyrin naphthyl; **electroluminescence**
platinum complex porphyrin naphthyl LED
IT Electric current-potential relationship
Luminescence, **electroluminescence**
(of platinum 5,10,15,20-tetra(naphthyl)porphyrin LEDs)
IT **Electroluminescent** devices
(red LEDs based on porphyrin metal complex)
IT **566878-51-1P**
(red LEDs based on porphyrin metal complex)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L22 ANSWER 12 OF 24 HCA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 139:16629 HCA

TITLE: Selective measurement of gaseous hydrogen
peroxide with light emitting diode-based
liquid-core waveguide absorbance detector

AUTHOR(S): Li, Jianzhong; Dasgupta, Purnendu K.

CORPORATE SOURCE: Department of Chemistry and Biochemistry, Texas
Tech University, Lubbock, TX, 79409-1061, USA

SOURCE: Analytical Sciences (2003), 19(4), 517-523

CODEN: ANSCEN; ISSN: 0910-6340

PUBLISHER: Japan Society for Analytical Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Atmospheric H₂O₂ is typically determined by enzymically mediated
fluorogenic

reactions that do not discriminate between H₂O₂ and organic peroxides.
Reactions of Ti(IV) with H₂O₂ also was the basis of colorimetric
measurements of H₂O₂ but is too insensitive. A more sensitive
determination

is possible with the Ti(IV)-4-(2-pyridylazo)resorcinol (PAR)
complex, however, unreacted PAR must be chromatog. separated A
titanium(IV)-porphyrin complex, oxo[5,10,15,20-tetra(4-
pyridyl)porphyrinato]titanium(IV) [TiO(tpypH₄)₄], (TiTPyP) was
introduced for the measurement of aqueous H₂O₂. TiTPyP can be used

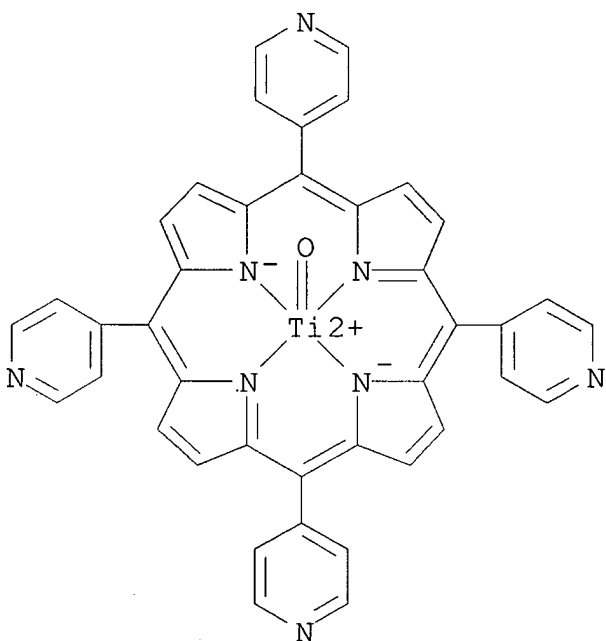
for
measuring H₂O₂(g), it does not respond to MeHO₂. With a proper
membrane collector, practically there is no interference from
concurrently present gaseous SO₂ and O₃. The approach permits a S/N
= 3 limit of detection (LOD) of 26 pptv with a 50 mm path liquid core

waveguide (LCW) absorbance detector and a light emitting diode based light source. This is adequate for real atmospheric measurements.

IT 105250-49-5, Oxo[5,10,15,20-tetrakis(4-pyridyl)porphyrinato]titanium(IV)
(gaseous hydrogen peroxide determination by optical gas sensor with light emitting diode-based liquid-core waveguide and tetrapyridyl porphyrinato titanium)

RN 105250-49-5 HCA

CN Titanium, oxo[5,10,15,20-tetra-4-pyridinyl-21H,23H-porphinato(2-)- κ N21, κ N22, κ N23, κ N24]-, (SP-5-12)-(9CI) (CA INDEX NAME)



CC 79-2 (Inorganic Analytical Chemistry)

Section cross-reference(s): 59

IT 105250-49-5, Oxo[5,10,15,20-tetrakis(4-pyridyl)porphyrinato]titanium(IV)
(gaseous hydrogen peroxide determination by optical gas sensor with light emitting diode-based liquid-core waveguide and tetrapyridyl porphyrinato titanium)

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 13 OF 24 HCA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 137:317321 HCA

TITLE: Light emission from porphyrin molecules induced by a scanning tunneling microscope

AUTHOR(S): Dong, Zhen-Chao; Kar, Asit; Zou, Zhi-Qiang;
Ohgi, Taizo; Dorozhkin, Pavel; Fujita, Daisuke;
Yokoyama, Shiyoshi; Terui, Toshifumi; Yamada,
Toshiki; Kamikado, Toshiya; Zhou, Minniu;
Mashiko, Shinro; Okamoto, Takayuki

CORPORATE SOURCE: National Institute for Materials Science,
Tsukuba, 305-0047, Japan

SOURCE: Japanese Journal of Applied Physics, Part 1:
Regular Papers, Short Notes & Review Papers
(2002), 41(7B), 4898-4902
CODEN: JAPNDE

PUBLISHER: Japan Society of Applied Physics

DOCUMENT TYPE: Journal

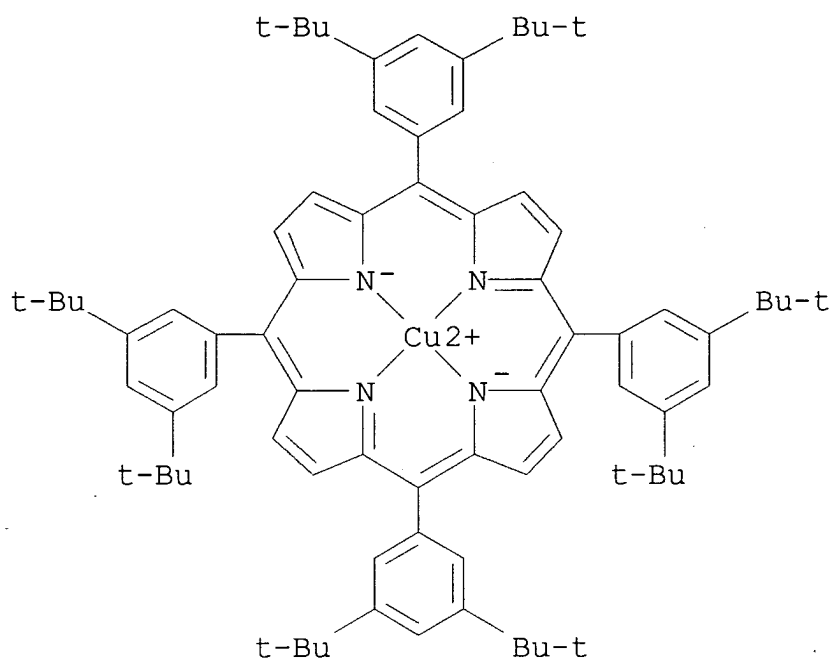
LANGUAGE: English

AB Positioning of a scanning tunneling microscope (STM) tip above Cu
meso-tetrakis(3,5-di-tert-butylphenyl)porphyrin (Cu-TBPP) mols. on
Cu(100) induces plasmon-mediated emission and mol. luminescence when
bias voltages are .gtorsim.2.3 V. Optical spectra acquired at a low
current of 0.2 nA suggest not only the enhancement effect of the
mols. on light emission but also new features associated with the
mols.
The quantum efficiency of such light emission excited by inelastic
tunneling is .apprx.10⁻⁶ photons per electron.

IT 146164-93-4, Copper meso-tetrakis(3,5-di-tert-
butylphenyl)porphyrin
(**electroluminescence** induced by scanning tunneling
microscopy)

RN 146164-93-4 HCA

CN Copper, [5,10,15,20-tetrakis[3,5-bis(1,1-dimethylethyl)phenyl]-
21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-
, (SP-4-1)- (9CI) (CA INDEX NAME)



CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 76

IT **146164-93-4**, Copper meso-tetrakis(3,5-di-tert-butylphenyl)porphyrin

(**electroluminescence** induced by scanning tunneling microscopy)

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 14 OF 24 HCA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 137:270182 HCA

TITLE: Organic electroluminescent material and device
INVENTOR(S): Hiraoka, Mizuho; Yamada, Naoki; Tanabe, Hiroshi; Ueno, Kazunori

PATENT ASSIGNEE(S): Canon Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2002280178

A2

20020927

JP 2001-75647

200103

16

PRIORITY APPLN. INFO.:

JP 2001-75647

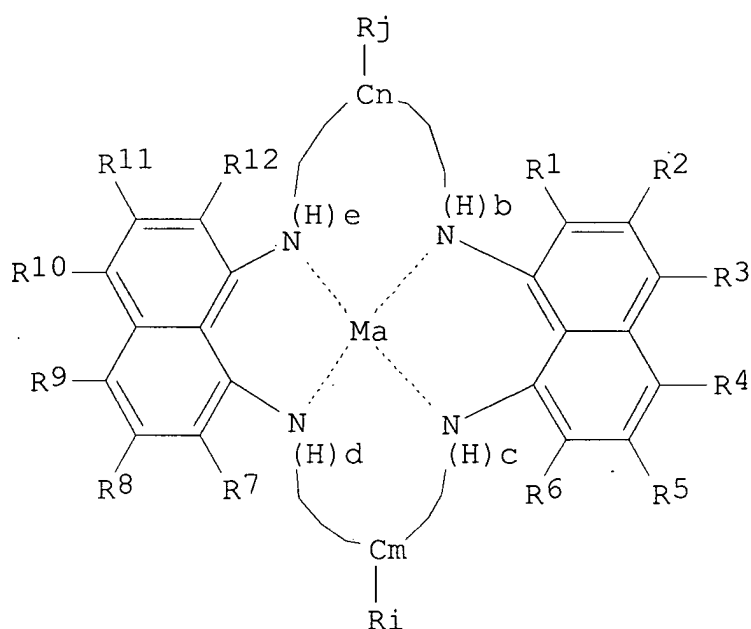
200103

16

OTHER SOURCE(S):

MARPAT 137:270182

GI



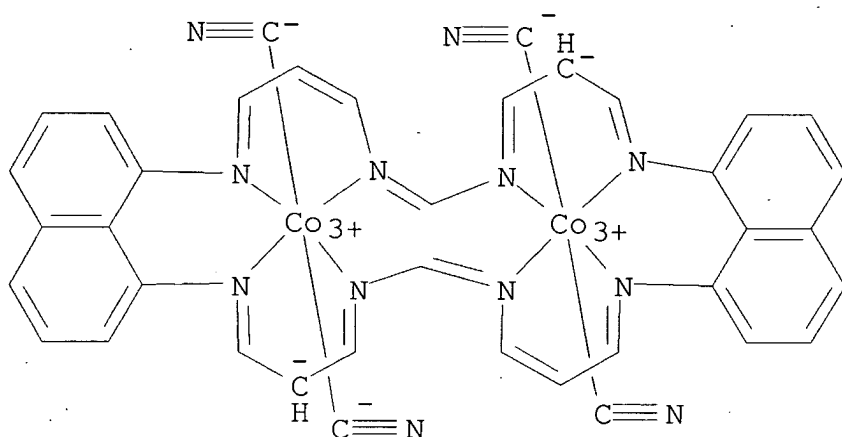
AB The invention refers to an organic electroluminescent device comprising

I as at least one of its luminescent layers [R1-12 = H, halo, (un)substituted aralkyl, alkenyl, alkoxy, aryl, heterocyclic, carbonyl, amino or azo, and adjacent groups may join together to form a ring; Cm, Cn = C1-11 chain; m,n = number of C atoms; if m,n = 1 the C and N have a single bond; if m,n ≥ 2 the C atoms may be unsatd., if m,n ≥ 3, N may be included in the chain; Ri,j = H, halo, (un)substituted alkyl, aralkyl, alkenyl, alkoxy, aryl, heterocyclic, or carbonyl amino or azo, and adjacent groups may be joined to form a ring; M = uni- to penta-valent transition metal; a = 0 - 2; b,c,d,e = 0, 1].

IT 463314-07-0

(organic electroluminescent material and device)

RN 463314-07-0 HCA
 CN Cobalt, tetrakis(cyano-κC) [μ-[9H,26H-dinaphth[1,8-hi:1',8'-vw][1,3,7,11,15,17,21,25]octaazacyclooctacosinato(2-)-κN7,κN11,κN30,κN34:κN13,κN17,.ka ppa.N24,κN28]]di- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
 ICS C09K011-06; H05B033-22
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 IT 462863-10-1 463314-06-9 **463314-07-0**
 (organic **electroluminescent** material and device)

L22 ANSWER 15 OF 24 HCA COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 137:208156 HCA
 TITLE: Metal-containing dendrimers
 INVENTOR(S): Burn, Paul Leslie; Christou, Victor; Lo, Shi-Chun; Pillow, Jonathan Nigel Gerard; Lupton, John Mark; Samuel, Ifor David William
 PATENT ASSIGNEE(S): Isis Innovation Limited, UK
 SOURCE: PCT Int. Appl., 77 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002066552	A1	20020829	WO 2002-GB750	200202

20

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

CA 2438745 AA 20020829 CA 2002-2438745

200202
20

EP 1366113 A1 20031203 EP 2002-700455

200202
20

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

JP 2004530254 T2 20040930 JP 2002-566264

200202
20

US 2004137263 A1 20040715 US 2004-468716

200402
13

PRIORITY APPLN. INFO.:

GB 2001-4175

A

200102
20

GB 2001-6307

A

200103
14

WO 2002-GB750

W

200202
20

AB **Light-emitting** devices are described which comprise ≥ 1 layer that contains an organometallic dendrimer with a metal cation as part of its core, the core not comprising a magnesium-chelated porphyrin. Organometallic dendrimers which comprise a metal cation as part of its core and ≥ 2 dendrons are described in which ≥ 1 of the dendrons is conjugated, the dendrimer is luminescent in the solid state, and the core does not comprise a magnesium-chelated porphyrin. Blends of the organometallic dendrimers and a corresponding nonmetallic dendrimer having the same dendritic structure as that of the organometallic

dendrimer are also described. Methods for producing dendrimers are described which entail providing a core by forming a complex between a metal cation and ≥ 2 coordinating groups, at least two of the the groups bearing a reactive functionality; and treating the core thus provided with ≥ 2 dendrons which were functionalized to render them reactive towards the reactive functionalities present in the core, ≥ 1 of the dendrons being conjugated. Methods for producing dendrimers are also described which entail attaching a coordinating group to each of ≥ 2 dendrons; forming a complex between the coordinating groups and a metal cation; and optionally further treating the complex with ≥ 1 addnl. coordinating ligands.

IT 453538-25-5P

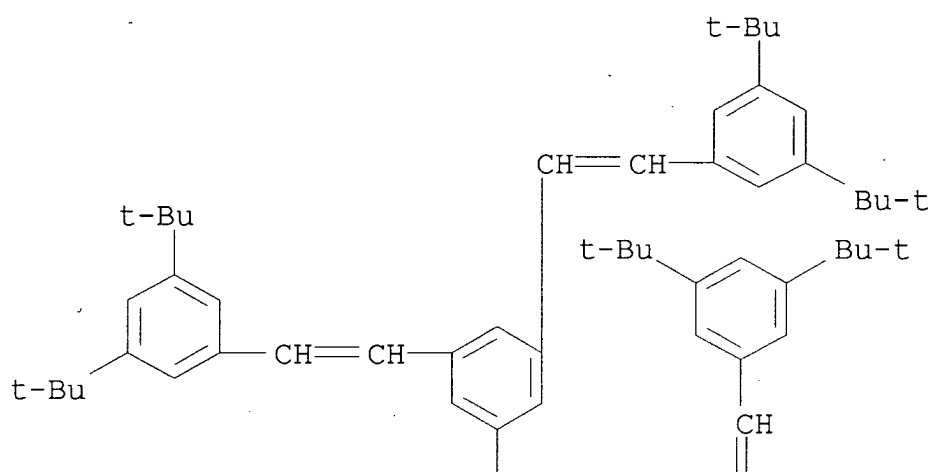
(metal-containing dendrimers and their production and blends containing them

and **light-emitting** devices using them)

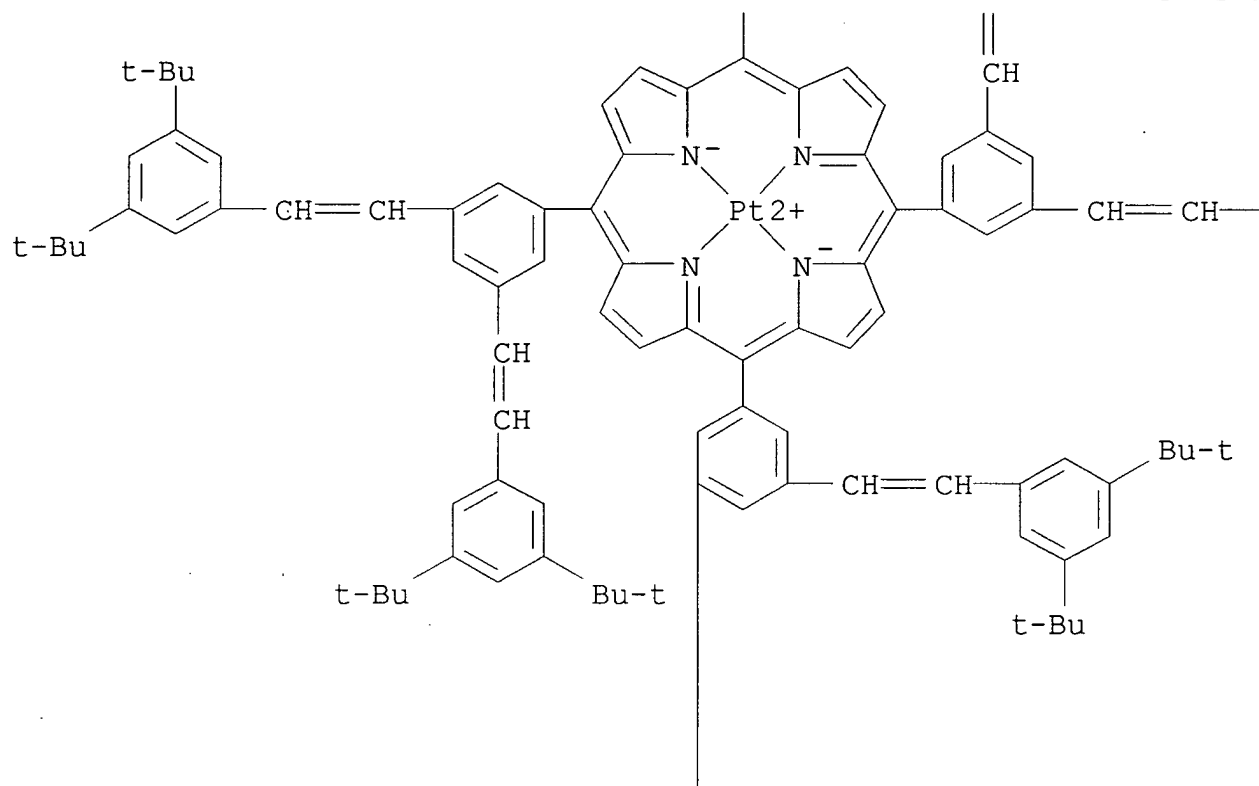
RN 453538-25-5 HCA

CN Platinum, [5,10,15,20-tetrakis[3,5-bis[2-[3,5-bis(1,1-dimethylethyl)phenyl]ethenyl]phenyl]-21H,23H-porphinato(2-)-
 $\kappa N21, \kappa N22, \kappa N23, \kappa N24$]-, (SP-4-1)- (9CI) (CA
INDEX NAME)

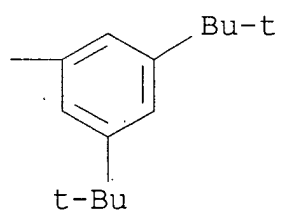
PAGE 1-A



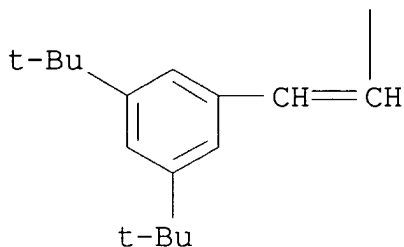
PAGE 2-A



PAGE 2-B



PAGE 3-A



- IC ICM C08K005-56
ICS C09K011-00; C09K011-06; H01L051-00; H01L051-30; C08G083-00
- CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 37, 76, 78
- ST organometallic dendrimer **light emitting** device
- IT Luminescent substances
(**electroluminescent**; metal-containing dendrimers and their production and blends containing them and **light-emitting** devices using them)
- IT **Electroluminescent** devices
(metal-containing dendrimers and their production and blends containing them and **light-emitting** devices using them)
- IT Dendritic polymers
Organometallic compounds
(metal-containing dendrimers and their production and blends containing them and **light-emitting** devices using them)
- IT 66-71-7D, 1,10-Phenanthroline, reaction products with organometallic dendrimers 366-18-7D, 2,2'-Dipyridyl, reaction products with organometallic dendrimers 4733-39-5D, Bathocuproin, reaction products with organometallic dendrimers 11104-93-1D, Nitrogen oxide, reaction products with organometallic dendrimers 72914-19-3D, reaction products with organometallic dendrimers
(metal-containing dendrimers and their production and blends containing them and **light-emitting** devices using them)
- IT 340026-47-3 454180-93-9
(metal-containing dendrimers and their production and blends containing them and **light-emitting** devices using them)
- IT 453530-55-7P 453538-19-7P 453538-20-0P 453538-22-2P
453538-23-3P 453538-24-4P **453538-25-5P** 453538-26-6P
453559-39-2P 453560-17-3P
(metal-containing dendrimers and their production and blends containing them)

and light-emitting devices using them)

IT 106-41-2, 4-Bromophenol 109-04-6, 2-Bromopyridine 121-43-7,
Trimethyl borate 626-39-1, 1,3,5-Tribromobenzene 1008-89-5,
2-Phenylpyridine 1184-63-0, Europium trisacetate 1461-22-9
1791-26-0, 4-Vinylbenzaldehyde 4316-58-9, Tris(4-bromophenyl)amine
5467-74-3, 4-Bromophenylboronic acid 6825-20-3,
3,6-Dibromocarbazole 7511-49-1 7646-69-7, Sodium hydride
10025-83-9, Iridium trichloride 25519-07-7, Terbium trisacetate
40000-20-2 56990-02-4, 3,5-Dibromobenzaldehyde 61676-62-8,
2-Isopropoxy-4,4,5,5-tetramethyl-1,3,2-dioxaborolane 89598-96-9,
3-Bromophenylboronic acid 223574-14-9 240810-88-2 453530-49-9
(metal-containing dendrimers and their production and blends

containing them

and light-emitting devices using them)

IT 4373-60-8P 63996-36-1P 164352-24-3P 355017-81-1P
355017-82-2P 452369-35-6P 452369-36-7P 452369-39-0P
453524-83-9P 453530-44-4P 453530-45-5P 453530-46-6P
453530-47-7P 453530-48-8P 453530-50-2P 453530-53-5P
453530-54-6P 453530-56-8P 453530-70-6P 453538-21-1P
453538-27-7P 453560-26-4P

(metal-containing dendrimers and their production and blends
containing them

and light-emitting devices using them)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L22 ANSWER 16 OF 24 HCA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 134:305280 HCA

TITLE: Phosphorescence-based method and apparatus for
determining the effect of a drug on cell
respiration rate

INVENTOR(S): Wilson, David F.; Vinogradov, Sergei A.

PATENT ASSIGNEE(S): Trustees of the University of Pennsylvania, USA

SOURCE: PCT Int. Appl., 35 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2001026609	A2	20010419	WO 2000-US28481	200010 13
WO 2001026609	A3	20020110		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,
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 GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,
 LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ,
 PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ,
 UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU,
 TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH,
 CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE,
 BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 6395555 B1 20020528 US 1999-418104

199910
 14

CA 2386842 AA 20010419 CA 2000-2386842

200010
 13

AU 2001012046 A5 20010423 AU 2001-12046

200010
 13

EP 1224443 A2 20020724 EP 2000-973545

200010
 13

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
 PT, IE, SI, LT, LV, FI, RO, MK, CY, AL

PRIORITY APPLN. INFO.:

US 1999-418104

A

199910
 14

WO 2000-US28481

W

200010
 13

OTHER SOURCE(S): MARPAT 134:305280

AB A method is described for determining the effect of a drug or drugs
 on an

attached culture of cells comprising (i) dissolving a phosphorescent
 compound, of known or predetd. quenching constant and lifetime at zero
 oxygen, in a culture medium at a selected temperature comprising an
 attached culture of test cells; (ii) introducing the drug(s), whose
 effect on the test cells is to be determined, into the culture medium;
 (iii) illuminating the culture medium with pulsed or modulated light
 at a level sufficient to cause the phosphorescent compound to emit
 measurable phosphorescence; (iv) measuring the emitted
 phosphorescence; and (v) calculating the phosphorescence lifetime and
 oxygen concentration gradient in the medium, thereby determining the
 effect of

the drug on the respiration rate of the cells at the selected
 temperature

Apparatus for carrying out the method is also disclosed.

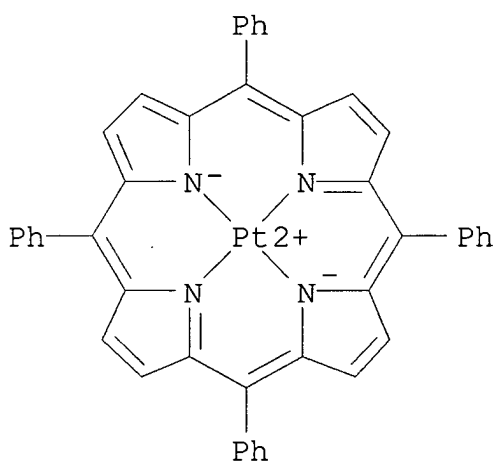
IT 14187-14-5 94288-45-6 166174-05-6
166174-13-6

(phosphorescence-based method and apparatus for determining drug effect on

cell respiration rate)

RN 14187-14-5 HCA

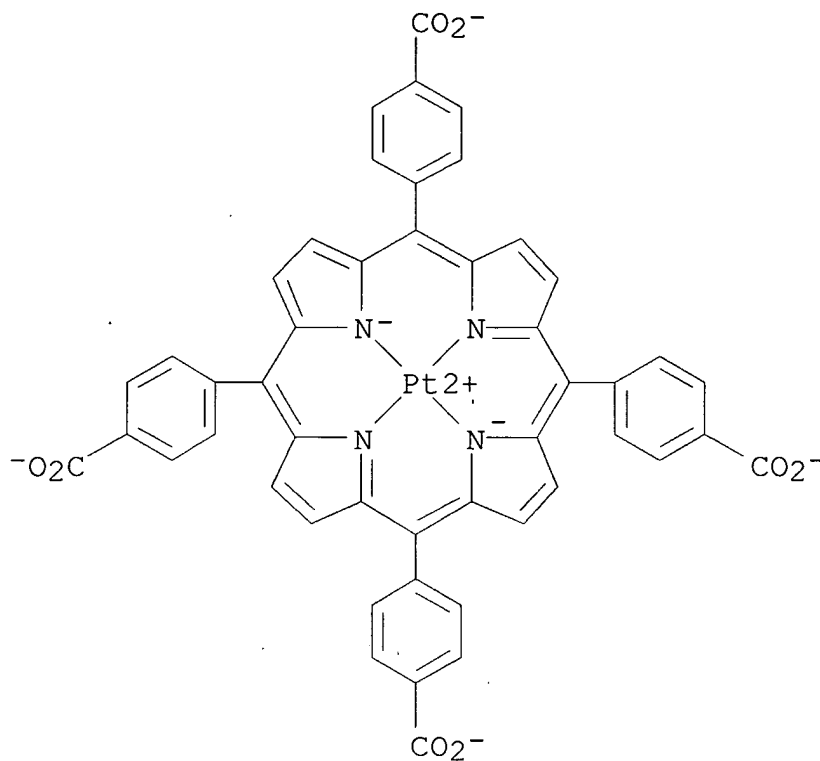
CN Platinum, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-
 $\kappa N21, \kappa N22, \kappa N23, \kappa N24$]-, (SP-4-1)- (9CI) (CA
INDEX NAME)



RN 94288-45-6 HCA

CN Platinate(4-), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-
 $\kappa N21, \kappa N22, \kappa N23, \kappa N24$)tetrakis[benzoato]](6-)]-
, tetrahydrogen, (SP-4-1)- (9CI) (CA INDEX NAME)

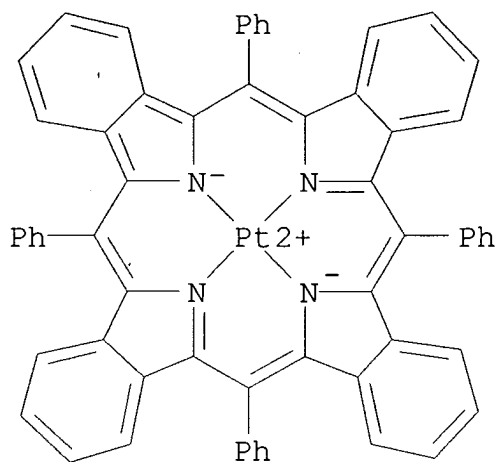
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PAGE 2-A

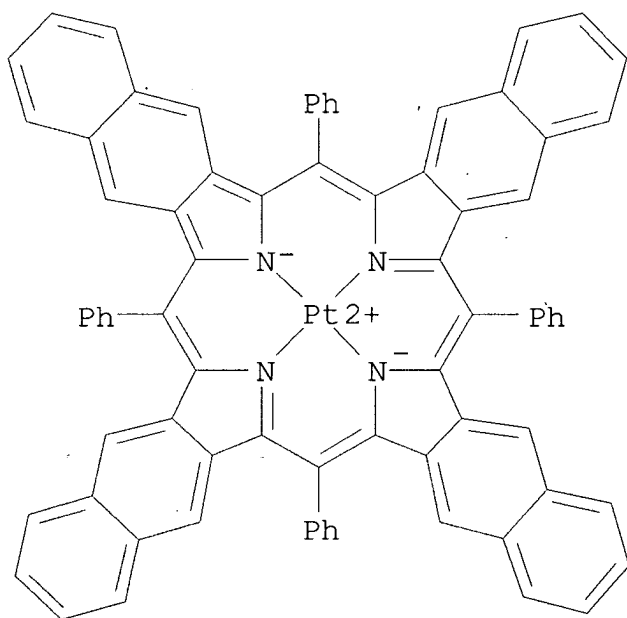
● 4 H⁺

RN 166174-05-6 HCA
CN Platinum, [6,13,20,27-tetraphenyl-29H,31H-tetrabenzob, g, l, q]porphinato(2-)-κN29, κN30, κN31, . kappa.N32]-, (SP-4-1)-(9CI) (CA INDEX NAME)



RN 166174-13-6 HCA

CN Platinum, [7,16,25,34-tetraphenyl-37H,39H-tetranaphtho[2,3-b:2',3'-g:2'',3''-l:2''',3'''-q]porphinato(2-)-κN37,κN38,κN39,κN40]-, (SP-4-1)- (9CI) (CA INDEX NAME)



IC ICM A61K

CC 1-1 (Pharmacology)

IT **Electroluminescent** devices

(pulsed **light-emitting** diode;

phosphorescence-based method and apparatus for determining drug effect on

cell respiration rate)

IT 917-23-7D, derivs., metal complexes 7429-90-5D, Aluminum, porphyrin complexes, biological studies 7439-91-0D, Lanthanum, porphyrin complexes, biological studies 7439-94-3D, Lutetium, porphyrin complexes, biological studies 7440-05-3D, Palladium, porphyrin complexes 7440-06-4D, Platinum, porphyrin complexes, biological studies 7440-31-5D, Tin, porphyrin complexes, biological studies 7440-65-5D, Yttrium, porphyrin complexes, biological studies 7440-66-6D, Zinc, porphyrin complexes, biological studies 14074-80-7 14187-13-4D, and derivs., metal complexes **14187-14-5** 14586-52-8 14609-54-2D, derivs., metal complexes 27647-84-3 34439-72-0 52952-31-5D, 29H,31H-Tetrabenzo[b,g,l,q]porphine, derivs., metal complexes 56551-50-9 59828-80-7 59828-88-5 73065-50-6 73523-25-8D, derivs., metal complexes 73797-39-4 80528-89-8D, derivs., metal complexes 80529-82-4 94288-44-5D, and derivs., metal complexes **94288-45-6** 97138-93-7D, derivs., metal complexes 97179-94-7 119654-64-7 123458-16-2D, derivs., metal complexes 152544-47-3 152544-64-4 154034-65-8 161589-08-8 **166174-05-6** 166174-12-5 **166174-13-6** 197451-64-2 216095-28-2 334987-58-5 334987-59-6 334987-60-9 334987-61-0 334987-62-1 334987-63-2 334987-64-3 334987-65-4 334987-66-5 334987-67-6 334987-68-7 334987-69-8 334987-70-1 334987-71-2 334987-72-3 334987-73-4 334987-74-5 334987-75-6 334987-76-7 334987-77-8 334987-78-9 334987-79-0 334987-80-3 334987-81-4

(phosphorescence-based method and apparatus for determining drug effect on

cell respiration rate)

L22 ANSWER 17 OF 24 HCA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 133:274003 HCA

TITLE: Injection-type electroluminescent devices

INVENTOR(S): Kishimoto, Yoshio

PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2000277262	A2	20001006	JP 1999-85019	199903 29

PRIORITY APPLN. INFO.:

JP 1999-85019

199903
29

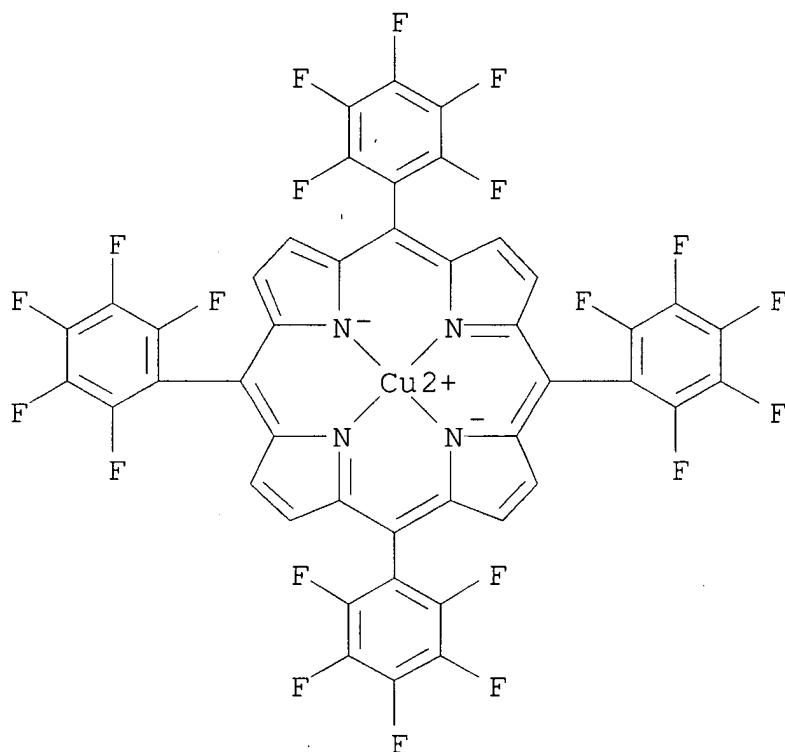
AB The devices comprise a transparent anode, a hole injection, an electron-transport/phosphor and a cathode layer, where the phosphor comprises a (metal) porphyrin substituted at 5, 10, 15 and 20 positions with halo Ph and/or cyano Ph.

IT 27882-93-5 28903-71-1

(injection-type **electroluminescent** devices)

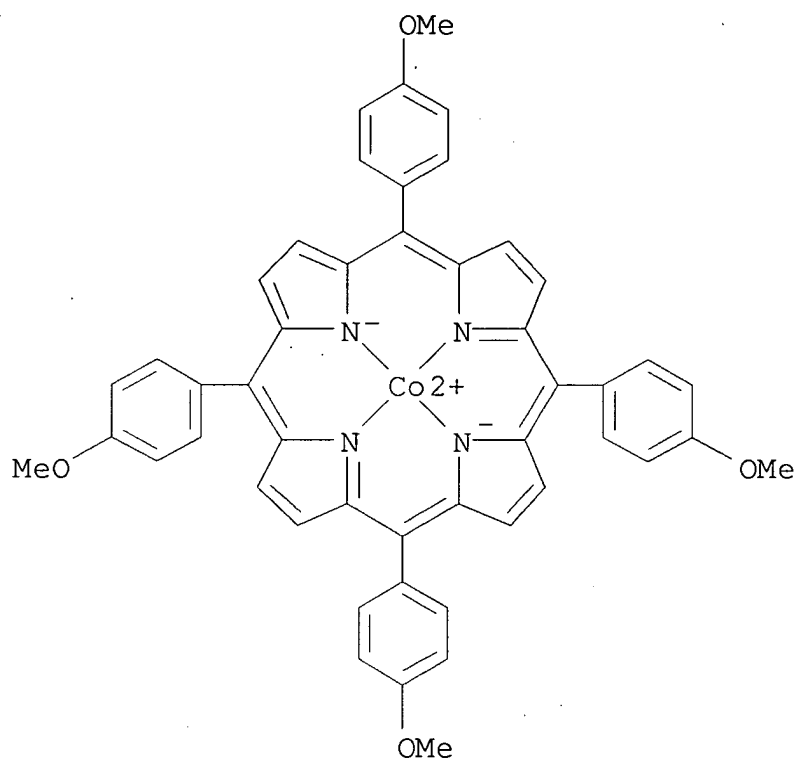
RN 27882-93-5 HCA

CN Copper, [5,10,15,20-tetrakis(pentafluorophenyl)-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-, (SP-4-1)-(9CI)
(CA INDEX NAME)



RN 28903-71-1 HCA

CN Cobalt, [5,10,15,20-tetrakis(4-methoxyphenyl)-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-, (SP-4-1)-(9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
IT 917-23-7 12798-95-7 16834-13-2 27882-93-5
28903-71-1
(injection-type **electroluminescent** devices)

L22 ANSWER 18 OF 24 HCA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:

132:85650 HCA

TITLE:

Efficient, Saturated Red Organic **Light Emitting** Devices Based on Phosphorescent Platinum(II) Porphyrins

AUTHOR(S):

Kwong, Raymond C.; Sibley, Scott; Dubovoy, Timur; Baldo, Marc; Forrest, Stephen R.; Thompson, Mark E.

CORPORATE SOURCE:

Department of Chemistry, University of Southern California, Los Angeles, CA, 90089, USA

SOURCE:

Chemistry of Materials (1999), 11(12), 3709-3713
CODEN: CMATEX; ISSN: 0897-4756

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

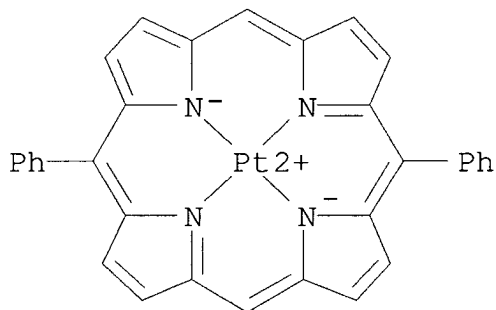
English

AB Two new Pt(II) porphyrins were synthesized and their luminescent properties were studied. Pt porphyrins exhibited strong phosphorescence in the red region with narrow line widths. When they were doped into Al(III) tris(8-hydroxyquinolate) (AlQ3) in the electron-transporting and -emitting layer of an organic **light-emitting** device, energy transfer occurred between the host AlQ3 and the Pt porphyrin. Bright saturated red emission with high efficiency at low to moderate c.d. was achieved. In the high current regime, the **electroluminescence** efficiency decreased and the perceived emission color blue shifted as a result of mixed emission from the Pt porphyrin and AlQ3. This current dependence was due to the saturation of triplet emissive sites, because of the long-lived phosphorescence state of the Pt porphyrin complex.

IT **223241-01-8P**
(preparation, **electroluminescence** and use in red organic **light emitting** devices)

RN 223241-01-8 HCA

CN Platinum, [5,15-diphenyl-21H,23H-porphinato(2-)- κ N21, κ N22, κ N23, κ N24]-, (SP-4-1)- (9CI) (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76, 78

ST platinum porphyrin prepn luminescence **electroluminescence**;
light emitting device phosphorescent platinum porphyrin

IT Luminescence
Luminescence, **electroluminescence**
(of platinum(II) porphyrins)

IT Metalloporphyrins
(preparation, **electroluminescence** and use in red organic **light emitting** devices)

IT **Electroluminescent** devices
(red organic **light emitting** devices based on

phosphorescent platinum(II) porphyrins)
IT 223241-01-8P 254104-18-2P
(preparation, **electroluminescence** and use in red organic
light emitting devices)
IT 2085-33-8, AlQ3 123847-85-8, α -NPD
(red organic **light emitting** devices based on
phosphorescent platinum(II) porphyrins)
REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L22 ANSWER 19 OF 24 HCA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 130:303836 HCA

TITLE: Highly transparent non-metallic cathodes

INVENTOR(S): Forrest, Stephen R.; Burrows, Paul;
Parthasarathy, Gautam; O'Brien, Diarmuid;
Thompson, Mark E.; Yu, Yujian; Shoustikov,
Andrei; Petasis, Nicos A.; Sibley, Scott; Loy,
Douglas; Koene, Brian E.; Kwong, Raymond C.
PATENT ASSIGNEE(S): The Trustees of Princeton University, USA; The
University of Southern California

SOURCE: PCT Int. Appl., 165 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 9920081	A2	19990422	WO 1998-US21171	199810 08
WO 9920081	A3	19990826		
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
US 6469437	B1	20021022	US 1997-964863	199711 05
US 6303238	B1	20011016	US 1997-980986	

US 6451455	B1	20020917	US 1998-53030	199712 01
				199804 01
US 6150043	A	20001121	US 1998-58305	199804 10
US 6413656	B1	20020702	US 1998-152960	199809 14
AU 9910707	A1	19990503	AU 1999-10707	199810 08
EP 1044586	A2	20001018	EP 1998-953300	199810 08
				199810 08
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JP 2001520450	T2	20011030	JP 2000-516507	199810 08
EP 1394870	A2	20040303	EP 2003-25325	199810 08
EP 1394870	A3	20040310		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, LT, LV, FI, MK, CY, AL				
US 2001053463	A1	20011220	US 2001-900650	200107 06
US 6579632	B2	20030617		
US 2003203236	A1	20031030	US 2003-426456	200304 30
PRIORITY APPLN. INFO.:			US 1997-948130	A 199710 09
			US 1997-64005P	P 199711 03
			US 1997-964863	A 199711 05
			US 1997-980986	A

		199712 01
US 1998-53030	A	199804 01
US 1998-53707	A	199804 03
US 1998-58305	A	199804 10
US 1998-152960	A	199809 14
EP 1998-953300	A3	199810 08
WO 1998-US21171	W	199810 08
US 2001-900650	A1	200107 06

OTHER SOURCE(S): MARPAT 130:303836

AB Cathodes are described which comprise an elec. conductive non-metallic layer in low-resistance elec. contact with a semiconductive organic layer; optoelectronic device comprising a device

for converting elec. energy into optical energy (e.g., organic **light-emitting** devices and lasers), or optical energy into elec. energy, employing the cathodes are also described. Methods of fabricating optoelectronic devices are described which entail depositing an elec. conductive non-metallic layer on an organic layer so as to form an interface region at the surface of the organic layer that lowers the voltage drop across the two layers when the two layers are used as a cathode in an optoelectronic device. Organic **light-emitting** devices (OLEDs) in which the highly transparent non-metallic cathodes may be used are also described comprised of a charge carrier layer containing a compound having mols. that have ≥ 1 electron-transporting moiety and ≥ 1

hole-transporting moiety, OLEDs comprised of an emissive layer containing an azlactone-related dopant, OLEDs comprised of an emissive layer containing a phosphorescent dopant compound, and OLEDs comprised of

a hole transporting layer containing a glassy organic hole-transporting

material comprised of a compound having a sym. mol. structure.

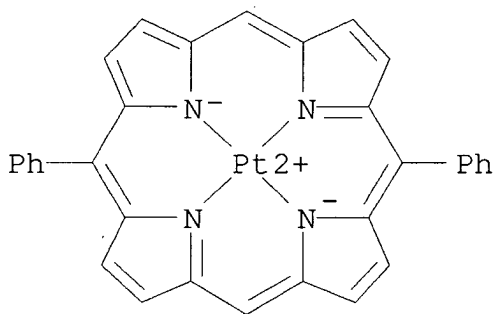
Azlactone derivs. and complexes suitable for use as the dopants are also described.

IT **223241-01-8P**

(transparent non-metallic cathodes and optoelectronic devices using them and their fabrication)

RN 223241-01-8 HCA

CN Platinum, [5,15-diphenyl-21H,23H-porphinato(2-)-
κN21,κN22,κN23,κN24]-, (SP-4-1)- (9CI) (CA
INDEX NAME)



IC ICM H05B033-26

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 76

ST org optoelectronic device transparent nonmetallic cathode; laser transparent nonmetallic cathode; **electroluminescent** device transparent nonmetallic cathode; azlactone deriv

electroluminescent device

IT Cathodes

Electroluminescent devices

Electroluminescent devices

Optoelectronic semiconductor devices

Photoelectric devices

Semiconductor device fabrication

Semiconductor lasers

(transparent non-metallic cathodes and optoelectronic devices using them and their fabrication)

IT 842-74-0P 1163-85-5P 1564-29-0P 1787-23-1P 66404-30-6P

108941-20-4P 222619-94-5P **223241-01-8P**

(transparent non-metallic cathodes and optoelectronic devices

using them and their fabrication)

L22 ANSWER 20 OF 24 HCA COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 130:117409 HCA
 TITLE: Organic electroluminescent device for flat panel display
 INVENTOR(S): Ishibashi, Tadashi; Onishima, Yasunori; Tamura, Shinichiro
 PATENT ASSIGNEE(S): Sony Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

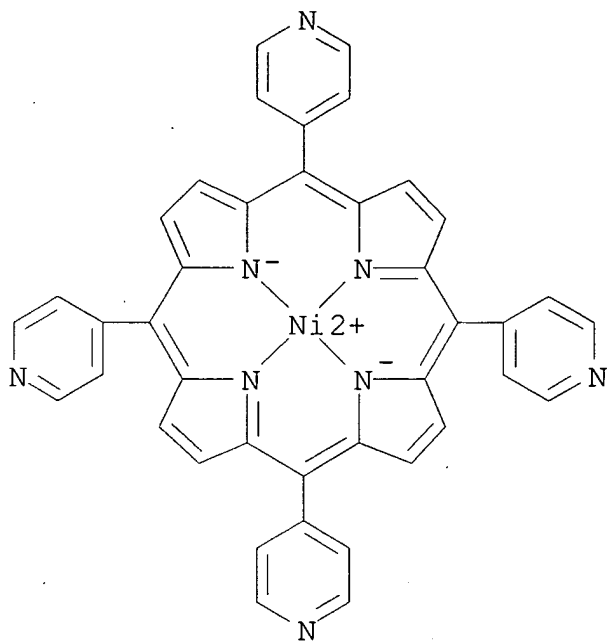
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 10335066	A2	19981218	JP 1997-143861	19970602
PRIORITY APPLN. INFO.:			JP 1997-143861	19970602

AB An organic electroluminescent device, suited for use in a flat panel display, comprises a hole injection layer made of tetra-Ph metals, and an electron injection layer made of porphyrin derivs., inserted between an anode and a hole transporting layer and between a cathode and an electron transporting layer, resp., to enhance the carrier injection efficiencies.

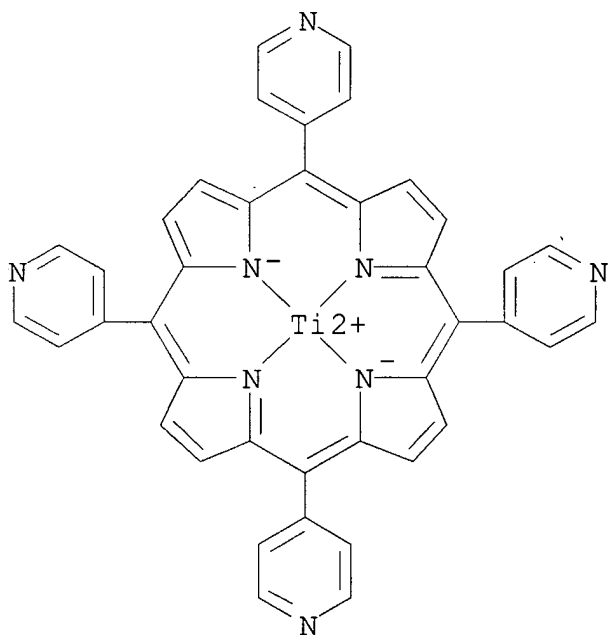
IT **14514-68-2**, 5,10,15,20-Tetra(4-pyridyl)-21H,23H-porphyrin nickel **211513-00-7**, 5,10,15,20-Tetra(4-pyridyl)-21H,23H-porphyrin titanium
 (electron injection layer used in organic **electroluminescent** device for flat panel display)

RN 14514-68-2 HCA

CN Nickel, [5,10,15,20-tetra-4-pyridinyl-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-, (SP-4-1)- (9CI) (CA INDEX NAME)



RN 211513-00-7 HCA
CN Titanium, [5,10,15,20-tetra-4-pyridinyl-21H,23H-porphinato(2-)-
 $\kappa\text{N}21, \kappa\text{N}22, \kappa\text{N}23, \kappa\text{N}24$]-, (SP-4-1)- (9CI) (CA
INDEX NAME)



IC ICM H05B033-22
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 73
IT **14514-68-2**, 5,10,15,20-Tetra(4-pyridyl)-21H,23H-porphyrin
nickel 31183-11-6, 5,10,15,20-Tetra(4-pyridyl)-21H,23H-porphyrin
zinc **211513-00-7**, 5,10,15,20-Tetra(4-pyridyl)-21H,23H-
porphyrin titanium
(electron injection layer used in organic **electroluminescent**
device for flat panel display)

L22 ANSWER 21 OF 24 HCA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 129:195624 HCA

TITLE: Organic electric-field light-emitting device and
flat panel display with it

INVENTOR(S): Ishihashi, Tadashi; Kijima, Yasunori

PATENT ASSIGNEE(S): Sony Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

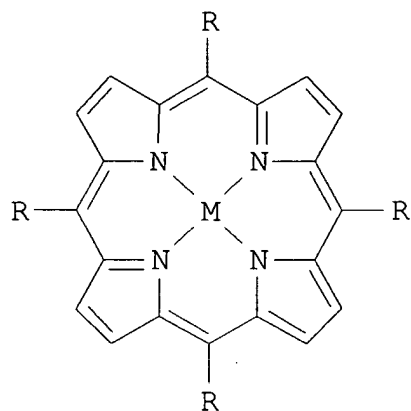
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

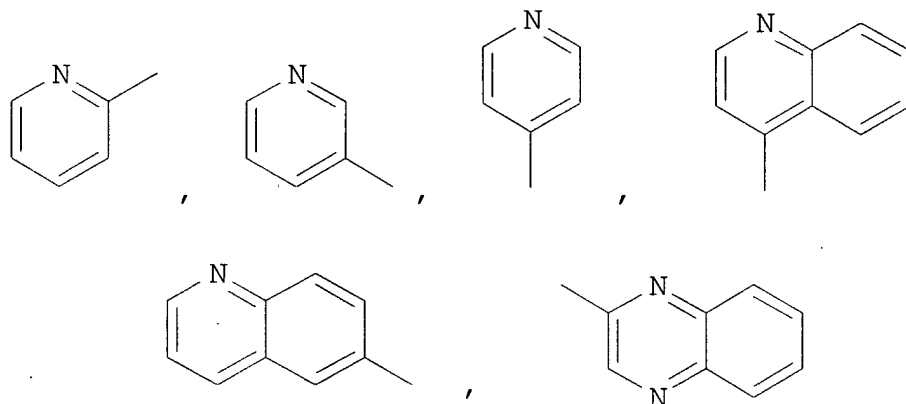
PATENT NO. ----- -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 10223372	A2	19980821	JP 1997-26951	199702 10
PRIORITY APPLN. INFO.: JP 1997-26951				199702 10

OTHER SOURCE(S): MARPAT 129:195624

GI



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AB The device contains a cathode successively coated with an organic elec.-field light-emitting layer, an electron-transporting layer, an electron-injecting layer, and an anode. The panel contains the device. The electron-injecting layer may contain a porphyrin derivative

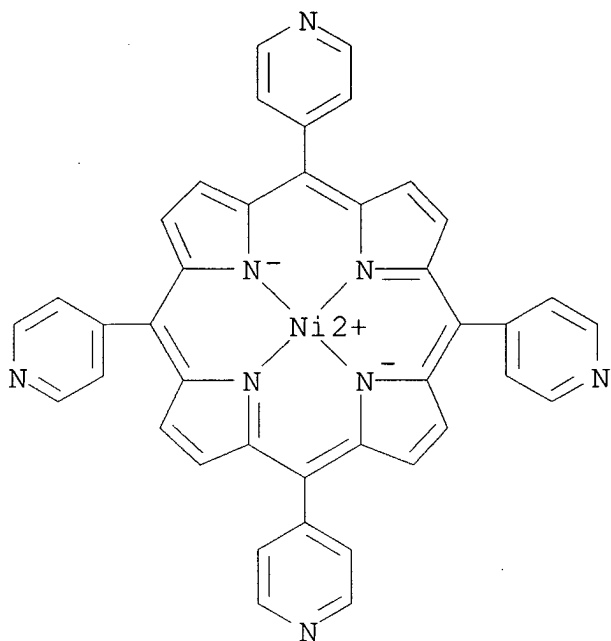
I (R = N-containing heterocyclic functional group selected from Q; M = metal atom). The device shows reduced elec. power consumption and long life.

IT 14514-68-2 211513-00-7

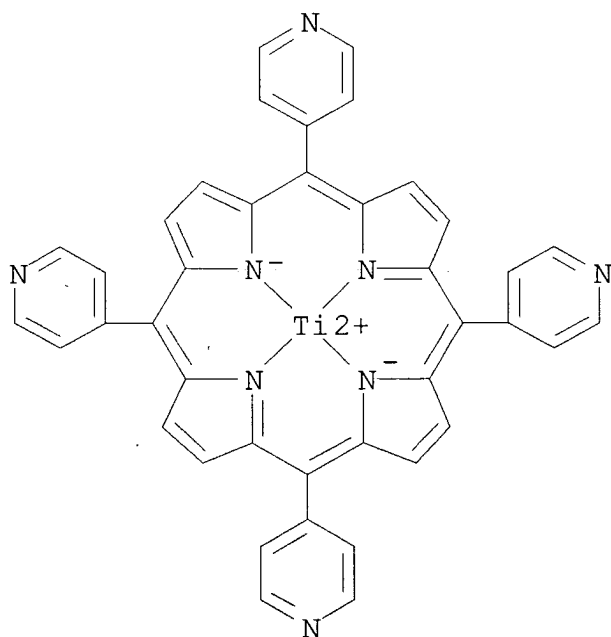
(elec.-field **light-emitting** device having porphyrin complex for flat panel display)

RN 14514-68-2 HCA

CN Nickel, [5,10,15,20-tetra-4-pyridinyl-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-, (SP-4-1)- (9CI) (CA INDEX NAME)



RN 211513-00-7 HCA
CN Titanium, [5,10,15,20-tetra-4-pyridinyl-21H,23H-porphinato(2-)-
 $\kappa\text{N}21, \kappa\text{N}22, \kappa\text{N}23, \kappa\text{N}24$]-, (SP-4-1)- (9CI) (CA
INDEX NAME)



IC ICM H05B033-22
ICS C09K011-06
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 74
IT **14514-68-2** 31183-11-6 **211513-00-7**
(elec.-field **light-emitting** device having porphyrin complex for flat panel display)

L22 ANSWER 22 OF 24 HCA COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 115:18321 HCA
TITLE: Organic thin film electroluminescent device
INVENTOR(S): Ishiko, Masayasu; Utsuki, Koji; Nunomura, Keiji
PATENT ASSIGNEE(S): NEC Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 02213088	A2	19900824	JP 1989-34026	19890213
				19890213

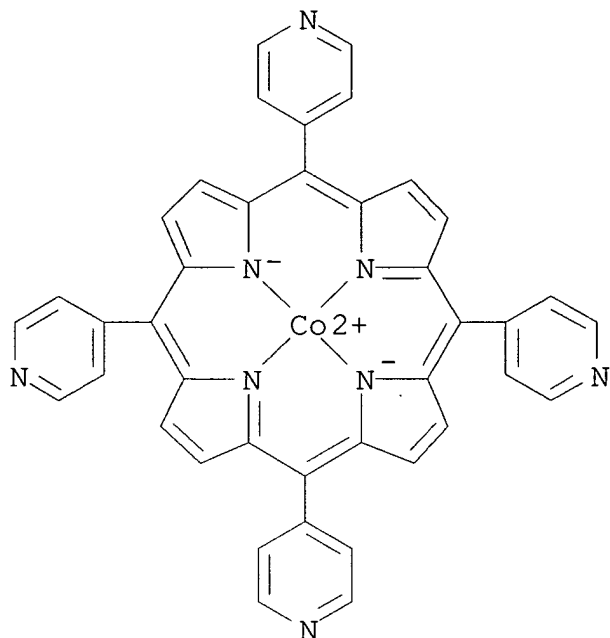
PRIORITY APPLN. INFO.: JP 1989-34026

AB The title electroluminescent device in which an organic phosphor thin film layer is sandwiched between a pair of electrodes ≥ 1 of which is transparent is obtained by contacting 1 or both sides of the phosphor thin film layer with either a pos. hole conducting organic thin film layer containing an organic compound possessing a porphyrin- or phthalocyanine ring structure to an electron acceptor compound had been added or an electron-conducting thin-film layer containing the above organic compound to which ≥ 1 electron donor compds. had been added. The device serves as a planar light source or is used in displays.

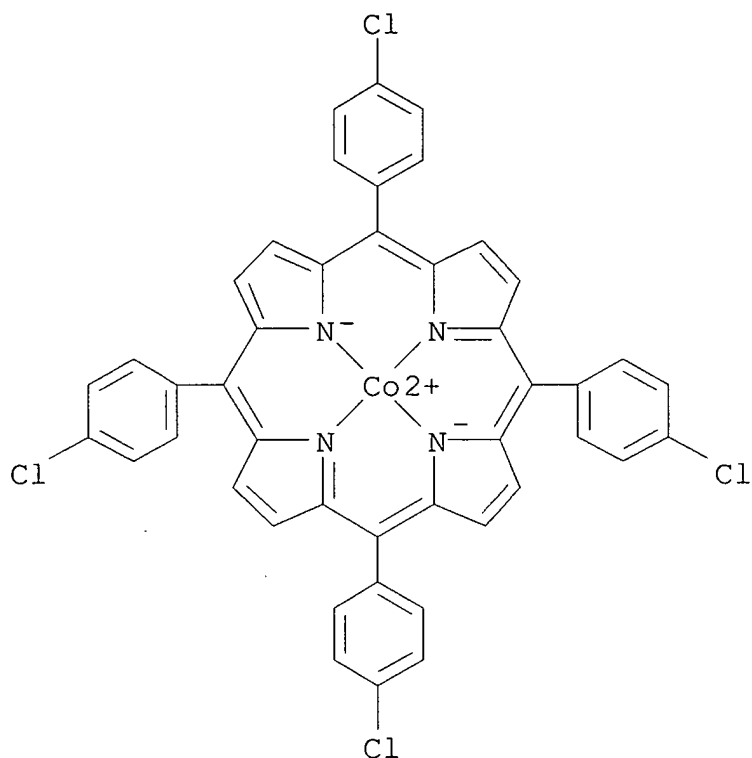
IT **14244-55-4 55915-17-8**
(pos. hole injection or electron conduction layer containing, **electroluminescent** device using)

RN 14244-55-4 HCA
CN Cobalt, [5,10,15,20-tetra-4-pyridinyl-21H,23H-porphinato(2-)-

$\kappa N21, \kappa N22, \kappa N23, \kappa N24$]-, (SP-4-1)- (9CI) (CA
INDEX NAME)



RN 55915-17-8 HCA
CN Cobalt, [5,10,15,20-tetrakis(4-chlorophenyl)-21H,23H-porphinato(2-)-
 $\kappa N21, \kappa N22, \kappa N23, \kappa N24$]-, (SP-4-1)- (9CI) (CA
INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06; H05B033-10
CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 74
IT 574-93-6, 29H,31H-Phthalocyanine 1661-03-6, Magnesium phthalocyanin 3317-67-7, Cobaltphthalocyanin 14052-02-9, Zincporphyrin **14244-55-4** 14320-04-8 14640-21-2 16834-13-2 21328-73-4 22112-78-3 27755-13-1 **55915-17-8** 120926-75-2 134373-81-2
(pos. hole injection or electron conduction layer containing, **electroluminescent** device using)

L22 ANSWER 23 OF 24 HCA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:

108:59776 HCA

TITLE:

Characterization of fossil porphyrins of the "di-DPEP" type

AUTHOR(S):

Prowse, W. G.; Chicarelli, M. I.; Keely, B. J.; Kaur, S.; Maxwell, J. R.

CORPORATE SOURCE:

Sch. Chem., Univ. Bristol, Bristol, BS8 1TS, UK
Geochimica et Cosmochimica Acta (1987), 51(10), 2875-7

SOURCE:

CODEN: GCACAK; ISSN: 0016-7037

DOCUMENT TYPE: Journal
 LANGUAGE: English

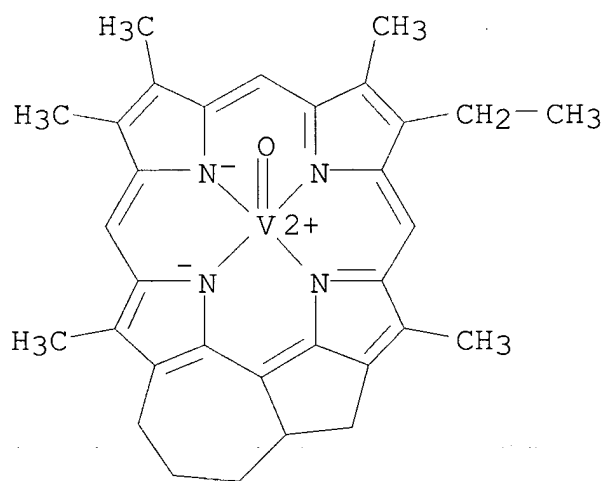
AB The structural assignment of 2 representatives (C32,C33) of the so-called di-DPEP series (with ≥ 1 degree of unsatn. than deoxyphytyloerythroetioporphyrin) is reported which were isolated from El Lajjun shale, a bituminous limestone of central Jordan (Upper Cretaceous, El Lajjun Basin). NMR results show that the free base of these vanadyl porphyrins is 13,15-ethano-3,8-diethyl-2,7,12,18-tetramethyl-132, 17-propanoporphyrin. These di-DPEP components do not contain a 6-membered ring. The nature of the fused ring structural feature suggests, whatever the biol. origin of the 2 di-DPEP's, the possibility of the fused ring system being present in the precursor pigment(s) at the time of sediment deposition.

IT 112172-06-2 112591-94-3

(in bituminous limestone, of El Lajjun Basin, Jordan)

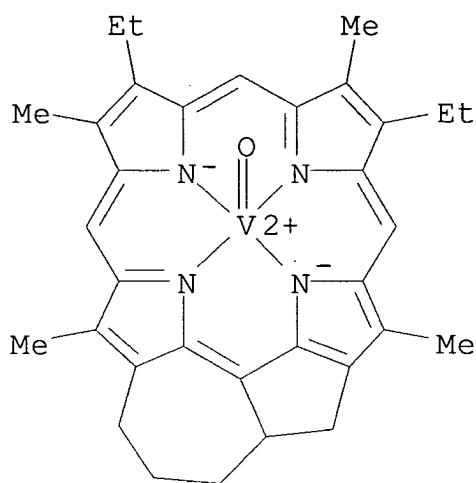
RN 112172-06-2 HCA

CN Vanadium, [11-ethyl-17a,18,19,20-tetrahydro-5,6,10,22,23-pentamethyl-17H-4,7-imino-2,21:14,16-dimetheno-9,12-nitrilo-1H-azuleno[1,8-bc][1,5]diazacyclooctadecinato(2-)-N1,N15,N24,N25]oxo-, . (SP-5-15)-(9CI) (CA INDEX NAME)



RN 112591-94-3 HCA

CN Vanadium, [6,11-diethyl-17a,18,19,20-tetrahydro-5,10,22,23-tetramethyl-17H-4,7-imino-2,21:14,16-dimetheno-9,12-nitrilo-1H-azuleno[1,8-bc][1,5]diazacyclooctadecinato(2-)-N1,N15,N24,N25]oxo-, (SP-5-15)-(9CI) (CA INDEX NAME)



CC 53-5 (Mineralogical and Geological Chemistry)
 IT 112172-06-2 112591-94-3
 (in bituminous limestone, of El Lajjun Basin, Jordan)

L22 ANSWER 24 OF 24 HCA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 77:157894 HCA

TITLE: Solid-state light source with an optical filter
 containing metal derivatives of
 tetraphenylporphin

INVENTOR(S): Wachter, Paul

PATENT ASSIGNEE(S): General Telephone and Electronics Laboratories,
 Inc.

SOURCE: U.S., 5 pp.
 CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3696263	A	19721003	US 1970-40940	197005 25
PRIORITY APPLN. INFO.:			US 1970-40940	A 197005 25

AB A solid-state light source adapted for viewing in an environment of
 ambient light consists of a red-emitting GaAs1-xPx diode and an

acrylic ester polymeric matrix containing PtL, SnLCl₂, and MnLCl
(H₂L = 5, 10, 15, 20-tetraphenylporphine). When a green-emitting GaP diode is the light source, the polymeric matrix contains PtL, MnLCl, and NiL.

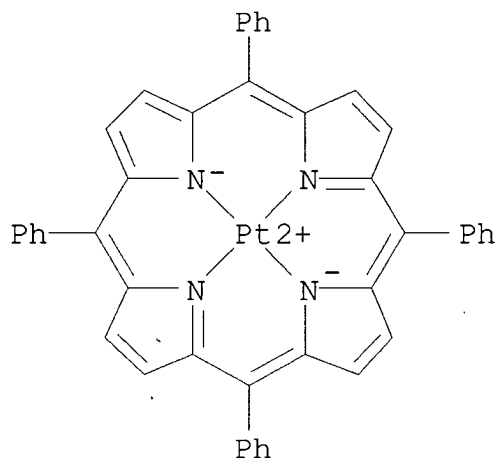
IT 14187-14-5 32195-55-4

(optical filters from acrylic polymer matrix containing, for gallium

arsenide phosphide **electroluminescent** diodes)

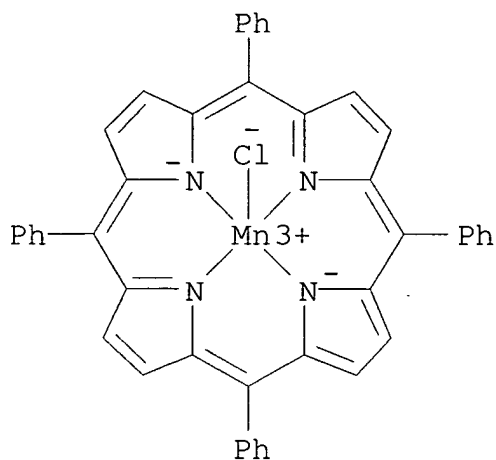
RN 14187-14-5 HCA

CN Platinum, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-
κN21,κN22,κN23,κN24]-, (SP-4-1)-(9CI) (CA
INDEX NAME)



RN 32195-55-4 HCA

CN Manganese, chloro[5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-
κN21,κN22,κN23,κN24]-, (SP-5-12)-(9CI) (CA
INDEX NAME)



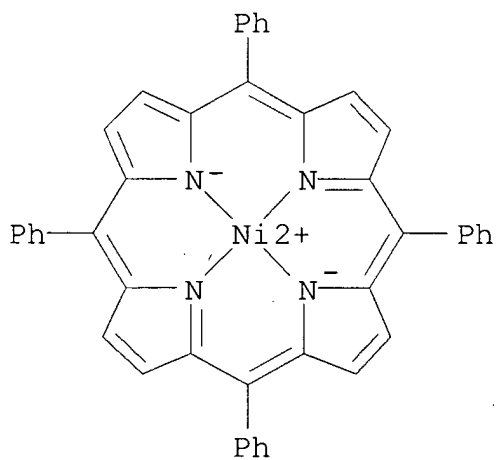
IT 14172-92-0

(optical filters from acrylic polymer matrix containing, for gallium

phosphide **electroluminescent** diodes)

RN 14172-92-0 HCA

CN Nickel, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-
κN21,κN22,κN23,κN24]-, (SP-4-1)- (9CI) (CA
INDEX NAME)



IC H01J

NCL 313108000D

CC 71-7 (Electric Phenomena)

Section cross-reference(s): 73

IT Light

(filters, from acrylic polymer matrix containing metal

tetraphenylporphine complexes, for gallium arsenide phosphide
electroluminescent diodes)

IT **Electroluminescent** devices
(gallium arsenide phosphide, optical filters for, from acrylic
polymer matrix containing metal tetraphenylporphine complexes)

IT Acrylic polymers
(optical filters from matrix of, containing metal
tetraphenylporphine
complexes, for gallium arsenide phosphide
electroluminescent diodes)

IT 1303-00-0D, Gallium arsenide (GaAs), solid solutions with gallium
phosphide 12063-98-8, uses and miscellaneous 12063-98-8D,
Gallium phosphide (GaP), solid solutions with gallium arsenide
(**electroluminescent** diodes, optical filters for, from
acrylic polymer matrix containing metal tetraphenylporphine
complexes)

IT **14187-14-5** 26334-85-0 **32195-55-4**
(optical filters from acrylic polymer matrix containing, for
gallium
arsenide phosphide **electroluminescent** diodes)

IT **14172-92-0**
(optical filters from acrylic polymer matrix containing, for
gallium
phosphide **electroluminescent** diodes)

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